

1-1-2016

A Developmental Contextualism Perspective On Young Children's Friendships: How Much Do Parental Characteristics, Parental Behaviors, Child Characteristics Matter?

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**A DEVELOPMENTAL CONTEXTUALISM PERSPECTIVE ON YOUNG CHILDREN'S
FRIENDSHIPS: HOW MUCH DO PARENT CHARACTERISTICS, PARENTAL
BEHAVIORS, AND CHILD CHARACTERISTICS MATTER?**

by

NICHOLAS R. BERGERON

DISSERTATION

Submitted to the Graduate School

of Wayne State University,

Detroit, Michigan

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

2016

MAJOR: PSYCHOLOGY

Approved By:

Co-Advisor

Date

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Date

DEDICATION

This dissertation is dedicated to my parents, Barry and Carol Bergeron, and my sister, Melissa McWherter, brother-in-law, Mike McWherter, my nieces, Savannah and Kelsi, and Uncle Tom Cheney. I would also like to thank my great-aunt, Auntie Bobo, for providing me with extra-motivation. Thanks for believing in me and inspiring me always to do my best. Thank you for all of your support through this process.

ACKNOWLEDGEMENTS

I would like to especially thank Dr. Marjorie Beeghly and Dr. Ty Partridge, for guiding me through this research and writing process, and for their knowledge, expertise, constructive comments, and patience. I would like to thank Dr. Ann Stacks for advice and comments and support. I would like to thank Dr. Lara Jones and Dr. Christopher Trentacosta for their help and guidance. I would also like to thank Dr. Annmarie Cano for her help during this process. Lastly, I would like to thank and acknowledge my colleagues who helped me throughout graduate school: Veronica Koci, Phoebe Lin, Nathan Weidner, Carissa Broadbridge, Devon Witherell, Lisa Van Havermaet, Fred Upton, and Amy Kohl.

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CHAPTER 1 INTRODUCTION

Two relationships essential to early social development are the parent-child relationship and the child-peer relationship. According to Bronfenbrenner's bioecological systems model of development, the parent-child relationship is an essential aspect of the family microsystem, and the child-peer relationship is an important extrafamilial microsystem (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2006). Although parent-child and child-peer relationships are both bidirectional and transactional in nature (Sameroff, 2009), there are some important differences. Parent-child relationships are typically permanent and "vertical" in nature (i.e. parents have more power in the relationship than children, due to parents' greater physical and psychological maturity). Child-peer relationships, on the other hand, are often transient, particularly in early childhood, and are "horizontal" (egalitarian) in nature (Laursen & Bukowski, 1997),.

Although functioning differently, the parent-child and peer-child microsystems are not independent, but influence one another in numerous ways throughout childhood (Bronfenbrenner, 1986). In early childhood, the interplay between these two microsystems forms the beginning of a family-peer mesosystem (Bronfenbrenner, 1979), which has important consequences for children's social competence and well-being (Laursen & Bukowski, 1997).

Parents can plausibly play a direct or an indirect role in facilitating or derailing their children's friendships. According to Gary Ladd and colleagues (Ladd & Le Sieur, 1995), parents may directly influence their children's peer interchanges by determining whether, when, and where their children meet their peers, how they initiate friendships, and whether and how they maintain these friendships. Parents also provide

opportunities for their children to meet and play with peers, such as scheduling times for children to play with one another, and making other arrangements to facilitate such meetings, such as organizing transportation. Parents also select the schools, daycares, neighborhoods, extracurricular activities, and so on, that form their children's "ecology of peers."

Parents also indirectly influence their children's early peer relationships. For instance, the quality of parents' relationship with their children (as indexed by parenting stress or attachment quality), or parents' own social networks and social support, and personality characteristics may indirectly influence the quantity and quality of their children's peer relationships via the impact of these factors on parents' well-being and behavior (Ladd & Le Sieur, 1995). However, few investigators have evaluated these direct and indirect links in a single study.

The goal of the present study is to examine whether and how the family-peer mesosystem affects the quality of the children's early peer relationships. Such an investigation may best be approached from the developmental contextual perspective (Lerner, 1991). Human development is influenced by the dynamic transaction of many levels of ecological context (Bronfenbrenner, 1979; Sameroff, 2009), and studying the systems effects of individual differences in the family-peer mesosystem *and* the effects of these individual differences on children's peer relationships is an important, although understudied, undertaking. Lerner's developmental contextual model (Lerner, 1991; 2002) is especially suited for this purpose because it incorporates the influence of biological and psychological factors of both child and parent, including transactions among these factors, as well as the indirect influence of parent-level factors, including

parenting stress, social networks and social support, and parents' personality. In turn, these transactional parent-child effects are embedded in and are altered by distal contexts, such as socioeconomic status (SES), community, and culture.

In the present study, it is hypothesized that parents' direct involvement with their preschool-aged child's peer relationships, which includes providing opportunities for their children to play with other children outside of school, observing children's play, helping children learn social skills that promote peer competence (i.e. sharing, helping resolve conflicts, and so on) will be associated with higher quality child peer relationships. It is further expected that parenting stress will negatively predict children's peer relationships, and that the parents' own social network and social support will positively relate to their children's peer relationships.

Moreover, variations in parents' personality dimensions and in children's characteristics (i.e., age, gender, and temperament) will be associated with the quality of children's peer relationships. Demographic factors (e.g., parental age, ethnicity, household income) may also be related to children's peer relations and will be evaluated as potential covariates.

Importance of Children's Peer Relationships.

In contrast to parent-child relationships, friendships are egalitarian relationships between peers, in which power is distributed evenly. During childhood, friendships are typically established between peers sharing similar characteristics (e.g., age, gender, race/ethnicity, and geographic location of the family). Friendships typically first begin to form during the preschool period, when children spend increasingly more time with peers outside of their family (Feiring & Lewis, 1987). Friendships in early childhood are

usually play-based and short-lived, changing from day to day (Laursen & Bukowski, 1997). However, close, "life-long" friendships that begin in early childhood also exist. Friends in later childhood continue to share similar characteristics and to be co-equal in power, but also begin to report feeling closer and more loyal to one another than non-friend peers, compared to friends in the preschool period. In both early and later childhood, friends engage in more social contact, have more positive interactions with each other, and exhibit a greater commitment to conflict resolution compared to non-friend peers (Newcomb & Bagwell, 1995).

A large body of research demonstrates that early friendships contribute to growth in children's social competence and have important implications for multiple aspects of children's later development. For instance, mutually nominated preschool friendships predict higher peer acceptance measured one year later (Lindsey, 2002). In a Head Start preschool sample, same-sex reciprocated friendships were associated with greater social competence compared to same-sex non-reciprocated friendships (Vaughn, Colvin, Azria, Caya, & Krzysik, 2001). Additionally, positive peer relationships in preschool are associated with better experiences with peers in kindergarten. In contrast, aggressive children in preschool are more disliked by their peers in kindergarten (Ladd & Price, 1987). In an Irish sample, children who were more liked and had a best friend in preschool were more likely to have reciprocated friendships later in elementary school (Quinn & Hennessy, 2010).

Friendships contribute to children's academic success as well. Many friendships are formed within the school context and may make school a more enjoyable experience, setting the stage for academic success. On the other hand, social rejection,

dissatisfaction and loneliness may cause students to become disengaged in school, less motivated to do well, and eventually more likely to dropout. Peer rejection is associated with greater school absenteeism (DeRosier, Kupersmidt, & Patterson, 1994). In one study, kindergarten peer rejection and social withdrawal led to chronic peer exclusion through the fourth grade, which in turn, led to lower classroom participation predicting lower academic achievement by the fifth grade (Buhs, Ladd, & Herald, 2006).

Other research shows that friendships established during the preschool period help ease the transition to kindergarten (Ladd & Price, 1987). Children with a large number of friends outside of school who continue the friendships from preschool to kindergarten view kindergarten more favorably (Ladd & Price, 1987). Children with familiar peers in kindergarten also hold more favorable perceptions of school, at both the beginning and the end of the year, and experience less anxiety compared to children without familiar peers (Ladd & Price, 1987). Moreover, children who maintain their friendships throughout kindergarten report more favorable perceptions of school by the end of the school year, and those who make new friends show an increase in school performance (Ladd, 1990). Wood (2007) reports that greater peer acceptance at age four mediates the relationship between mothers' positive perceptions of their children as being more trusting and secure at age three and children's preschool academic competence at age four.

Parental Effects on Children's Friendships

As stated above, the influence that parents exert on their children's peer relationships is typically categorized as either direct or indirect (Ladd & Le Sieur, 1995). Direct effects include parents' day-to-day interactions with their children, their

knowledge of their children's friendships, and the actions parents take to either promote or minimize their children's peer contacts, friendships, and social competence with peers. Indirect effects include parents' perceived level of parenting stress, their own social network and perceived social support, and their personality characteristics among other attributes. Each of these factors may indirectly impact the quantity and quality of young children's peer relationships, via their impact on the well-being of the parent and the parent-child relationship. In the present study, direct parental effects will be referred to as *proximal* effects and indirect parental effects will be referred to as *distal* effects, in order to avoid confusion with statistical definitions of direct and indirect effects.

Proximal parent factors. One of the primary ways that parents directly influence their children's peer relationships is by determining the neighborhood and school in which children's peer relationships form and develop (Ladd & LeSieur, 1995). Mothers' and fathers' knowledge and management of their child's peer interactions also have a significant effect. Mothers who give their children advice for how best to behave with peers, assimilate into the already established play dynamic at school, and gain entry into established peer groups have children who are more socially skilled (Finney & Russell, 1988). In addition, parents who monitor and oversee their children's peer relationships, as opposed to being overly active participants in their children's play, have children with higher levels of social competence and better peer relationships (Ladd & Golter, 1988).

In contrast, both overcontrolling and undercontrolling parental behavior is negatively associated with children's peer competence. For example, Finney and Russel report that both mothers who intrusively micromanage their children's social

relationships, and mothers who avoid managing their children's peer relationships altogether, have children with lower levels of social competence (Finney & Russell, 1988). In a follow-up study of the same sample, Russell and Finney (1990) demonstrate that mothers of popular school-aged children, compared to mothers of non-popular children, use the same effective strategies to promote their children's peer relationships that were used by mothers of socially-skilled preschoolers described above. In contrast, mothers of peer-neglected and rejected children use ineffective strategies similar to those used by mothers of preschoolers with poorer social skills (Russell & Finney, 1990).

Age differences in how parents manage their children's peer relationships are also reported. Bhavnagri and Parke (1991) found that parents are more likely to directly supervise younger preschool children's peer interactions than parents of older preschool children. Of note, these investigators also report that fathers and mothers are equally capable of managing and facilitating their children's peer relationships.

Parents also foster their preschool children's peer relationships by initiating play dates for them and helping their young children initiate play dates for themselves. Parents' initiations are associated with their children's larger number of non-school play partners (Ladd & Golter, 1988). Parents who include their children in the peer-play initiation process, and who teach and encourage social skills, such as how to contact peers, share toys with them, and put the interest of their playmate's first, have children who are more likely to initiate their own play dates and have larger peer networks and greater peer acceptance (Ladd & Hart, 1992). Along with monitoring their children's play and initiating play dates with new play mates, parents also help children avoid or

resolve conflict with peers and siblings and help them to act more prosocially (Dunn & Herrera, 1997).

Key factors that influence the level of parents' involvement in their children's peer relationships are parents' perceptions of their children's social skills and the efficacy of their interventions to instill appropriate social skills in their children. When parents believe that children's social skills are important in fostering children's positive peer relationships and that parental intervention can modify children's social skills, parents are more likely to rate their children as more socially competent. In turn, parents who believe that social skills are important and perceive their children as less socially competent are more likely to intervene (Mize, Pettit, & Brown, 1995). However, parents' intervention may not always have positive benefits: Profilet and Ladd (1994) report that excessive intervention may negatively affect children's social skills. These investigators show that mothers in their study had greater concern for their children's low peer sociability than for their children's low prosocial skills (Profilet & Ladd, 1994).

Distal parent factors. A variety of distal factors may indirectly affect the quality of children's peer relationships. These factors are understudied but may include parents' discipline strategies, the quality of the parent-child relationship (attachment, parenting stress), and parents' own characteristics, such as their own social support network and personality.

Hart and colleagues show that a parental discipline style characterized by warmth and the use of explanations is related to children's better peer relationships, whereas an authoritarian parental discipline style that is characterized by harshness and overcontrolling behavior and that provides the child little or no explanations is

related to children's poorer peer relationships (Hart, Ladd, & Burleson, 1990; Hart, DeWolf, Wozniak, & Burts, 1992). Similarly, parents who have less warm relationships with their young children may be less effective in scaffolding the children's social skills with peers, which in turn could undermine the frequency and quality of their children's peer interactions. In a recent longitudinal study, mothers' warmth assessed across childhood to adolescence predicted the quality of children's peer relationships during that same time period (Trentacosta, Criss, Shaw, Lacourse, Hyde, & Dishion, 2011). Additionally, parents who engage in physical play with their children, a positive, affectively arousing play-style that occurs most often during the preschool period and is thought to promote children's self-regulatory skills, are more likely to have children with positive peer relationships, compared to parents who engage in less physical play with their children (MacDonald, 1987; MacDonald & Parke, 1986).

Children with a secure attachment relationship with their parents also have better peer relationships compared to children with insecure attachment relationships (Waters, Wippman, & Sroufe, 1979; LaFreniere & Sroufe, 1985). In a German sample, Wartner, Grossmann, Fremmer-Bombik, & Suess (1994) report that securely attached children exhibit more competent play and engage in more conflict resolution with peers than insecurely attached children. In a meta-analysis of research on attachment and peer relations, Schneider, Atkinson, and Tardif (2001) report that attachment is moderately related to peer relationships overall, and that the association between attachment and friendships is stronger than the overall association of attachment with peer relationships more generally. Age differences in this association are also apparent. Notably, effect

sizes are larger in samples with older children and adolescents than in samples of preschoolers (Schneider et al., 2001).

Other parental distal factors that may indirectly affect children's peer relationships include parents' mental health and intimate social support, as indexed by the use of parental coparenting strategies. Several investigators have reported that maternal depression is linked to children's poorer peer relationships (Goodman, Brogan, Lynch, & Fielding, 1993; Hipwell, Murray, Ducournau, & Stein, 2005). Similarly, parents who engage in cooperative coparenting have children who engage in more prosocial behaviors with peers, even when controlling for parents' disciplinary style (Scrimgeour, Blandon, Stifter, & Buss, 2013).

Other Understudied Parent Distal Effects. The previously described distal parental effects illustrate how the parent-child relationship and parental well-being have important indirect influences on children's peer relationships (Ladd & LeSieur, 1995). Other distal parental factors may also be important but have been less well studied, such as parents' levels of parenting stress, their own social network and perceived social support, and their personality characteristics. These factors may potentially also contribute to children's early peer relationships and deserve more attention and research in this literature.

Parenting stress and children's peer relationships. As reviewed above, the quality of the parent-child relationship is linked to children's peer relationships, friendships and social competence. Strained parent-child relationships may diminish children's social competence by undermining children's ability to regulate negative

emotions and frustrations, which in turn may undermine children's ability to resolve conflicts during child-peer social interactions.

Conflicted parent-child relationships may also contribute to parents' perceived parenting stress, which in turn is associated with less parental warmth and responsiveness during parent-child interactions (Deater-Deckard, 1998; Crnic, Gaze, & Hoffman, 2005; Crnic, Greenberg, Ragozin, Robinson, & Basham, 1983). Deater-Deckard and Scarr (1996) report that higher parenting stress is associated with a greater use of authoritarian parenting. Parents' perceptions of daily hassles and stressors related to parenting tend to remain stable across the preschool years and directly predict a higher level of child negativity and problem behaviors (Crnic et al., 2005). In one study of two-year-olds, mothers' and fathers' parenting stress was associated with more child externalizing behavior problems (Creasy & Jarvis, 1994). Similarly, Coplan, Bowker, & Cooper (2003) found that parenting hassles, specifically those related to children's challenging behaviors predict a higher prevalence of children's externalizing behaviors. Conversely, higher externalizing behaviors predict higher levels of maternal parenting stress across the early childhood period (Williford, Calkins, & Keane, 2007). Neece and colleagues report that parenting stress and children's externalizing behaviors transact in a dynamic manner and increase or decrease across early to middle childhood (Neece, Green, & Baker, 2013).

Some research suggests that parenting stress is directly related to children's lower social competence in the classroom, independent of parenting behaviors (Anthony, Anthony, Glanville, Naiman, Waanders, & Shaffer, 2005). Others report that parents' self-reported life stress is associated with children's lower performance on

theory of mind tasks in the preschool period, a social-cognitive skill linked to perspective-taking, prosocial behavior, and social competence with peers (Guajardo, Snyder, & Petersen, 2009). Tharner et al. (2012) report that a higher level of parenting stress predicts a higher level of child internalizing behavior (i.e. social withdrawal) as well as a higher level of externalizing behaviors (i.e. attention problems and aggressiveness), but only among children with an insecure parent-child attachment relationship. Tharner and colleagues hypothesize that a secure parent-child attachment may buffer the effects of parenting stress on children's social emotional behavior (Tharner et al., 2012).

Although many parents report that their level of parenting stress decreases across the preschool period, individual differences exist and some parents report that it remains high. This is likely the case when parents have children with negative temperament, anger proneness, poor emotion regulation, and externalizing behaviors, or when parents must cope with demographic and psychosocial risks, such as being a single parent and having psychiatric problems, such as a diagnosis of psychopathology (Williford et al., 2007). In a Swedish sample, parenting stress was associated with children's greater social inhibition and lower social competence, and parenting stress mediated the relationship between social support and social competence (Östberg & Hagekull, 2013). These investigators also report that parenting stress has the strongest impact on children's adjustment compared to all other external stressors evaluated, including single parenting, parent health problems, and child health problems (Östberg & Hagekull, 2013). These findings warrant further evaluation in American and other samples.

Parents' social networks and children's peer relationships. Although understudied, some research suggests that children's social competence with peers may be affected by their parents' own social competence. Parents who are outgoing, have many friends and perceived social support, and place a stronger emphasis on building social skills in their children are more likely to have extraverted children with strong social skills. For example, parents with more friends are more likely to have children who also have more friends and greater social competence compared to parents with few friends (Homel, Burns, & Goodnow, 1987; Uhlenborff, 2000). Furthermore, parents' perceived friendship quality is positively related to their children's friendship quality (Simpkins & Parke, 2001). When parents know their children's friends and these friends' parents, and their children also know their friends' parents, the children have greater positive adjustment (Fletcher, Newsome, Nickerson, & Bazel, 2001).

Moreover, research suggests that parents' social network may have indirect effects on children's social development, including their peer relationships. Parents are likely to know their children's friends when they encounter these friends' parents outside of the school context. This is especially the case when parents are more involved with others in their neighborhoods and community organizations, such as churches (Fletcher, Troutman, Gruber, Long, & Hunter 2006). In these contexts, parents' children and their friends' children are likely to also be friends. Although some research has investigated the link between parents' number of friends and their children's number of friends, more research is needed on the effects of parents' social networks and

perceived social support on their children's quality of peer relationships and social competence.

One well-utilized approach to studying individuals' social network and social support is the Social Convoy Model (Kahn & Antonucci, 1980). This model postulates that a personal social network constantly provides social support and escorts the person throughout the life span. However, one's social network may also change over time. To empirically study the social convoy, Antonucci (1986) devised the Hierarchical Mapping Technique, in which research participants are asked to report on their supportive relationships in a diagram consisting of three concentric circles. Participants are asked to list the names of the persons with whom they have their closest relationships in the innermost ring and the names of persons who provide social support but are less close in the middle and outermost rings. This technique has been widely used to study social support in adults (Antonucci & Akiyama, 1987; Ajrouch, Antonucci, & Janevic, 2001) as well as in adolescents and school-aged children (Levitt, Guacci-Franco, & Levitt, 1993). This technique is especially useful for research in which the investigator wishes to compare the size of different parents' social support networks or evaluate the relative proportion of persons in the innermost ring relative to total network size. Levitt and colleagues report that 14-year-olds included more friends in their inner circle than younger eight- and ten-year-old children, but at all ages children were more likely to identify family members than non-family members in the innermost circle.

In the present study, the researcher will investigate whether parents with a larger social network and a larger proportion of close friends in their social convoy will be more likely to foster the peer relationships of their children, compared to parents with a

smaller network and fewer friends. It is expected that parents, whose friends provide them with a great deal of social support will be more likely than other parents to initiate play dates for their children and facilitate the friendships of their children, because these parents place greater value on their own friendships. Alternatively, it is possible that parents who report more friends in their social network may simply be more gregarious, and network size may not be associated with their behavior or attitude towards fostering their children's peer relationships.

Parents' personality and parenting. Personality is often measured in terms of traits describing the person, and research consistently supports a five factor model of personality (the Big Five; Costa & McCrae, 1992; McCrae & John, 1990). These five factors are Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience (McCrae & John, 1990). Extraversion is associated with gregariousness, social skills, and more enterprising vocational pursuits. Agreeableness involves compliance, forgiving attitudes, cooperation, and compassion. Conscientiousness relates to achievement, organization, leadership, and technical expertise. Neuroticism concerns depression, anxiety, low self-esteem, and irrational perfectionist beliefs. Openness to Experience involves greater activity, curiosity, diverse interests, and creativity (McCrae & Costa, 2008).

In a meta-analysis of the associations between personality and parenting, Prinzie, Stams, Deković, Reijntjes, & Belsky (2009) find that higher neuroticism is associated with less warm and supportive parenting, less structured and controlled parenting, and less autonomy support. The other four personality factors are positively

associated with warmer, more supportive parenting, and structured and controlled parenting. Higher agreeableness is also associated with greater autonomy support.

In addition, parents' personality characteristics may interact with their transient mood and daily hassles to affect their parenting. In a study by Belsky and colleagues, parental agreeableness is related to greater positive mood, which in turn is linked to more positive parenting, greater cognitive stimulation of the child, and less detachment from the child. In contrast, parental neuroticism is related to negative moods, more daily hassles, more negative affect towards the child, and less stimulating but more intense parent-child interactions (Belsky, Crnic, & Woodworth, 1995).

Other investigators study the association between parents' personality and their interactions with and discipline of their young children. In research by Kochanska and colleagues, mothers' conscientiousness is strongly related to their responsiveness to their children (Clark, Kochanska, & Ready, 2000). These researchers also report that mothers high in extraversion are more likely to use power-assertive discipline strategies with their young toddlers five months later. However, these highly extraverted mothers use power assertive strategies only with children who are high in negative emotionality (Clark, Kochanska, & Ready, 2000).

In other research by Kochanska and colleagues, mothers' conscientiousness is strongly related to their responsiveness to and better tracking of their child (Kochanska, Friesenborg, Lange, & Martel, 2004), whereas, maternal neuroticism is negatively related to their positive interactions with their child. In contrast, fathers' agreeableness and openness to experience are positively associated with more positive interactions

with their child, and fathers' extraversion is associated with their decreased tendency to track their child's cues during father-child interactions (Kochanska et al., 2004).

Similarly, in a Finnish sample, of mothers, fathers, and preschoolers, mothers' extraversion is related to a higher level of nurturance of the child and child-centered parenting, as indexed by other parent report and direct observations (Metsäpelto & Pulkkinen, 2005). In turn, paternal extraversion is related to a higher level of reported, but not observed, nurturance. Interestingly, both introversion and nurturance are positively related to the quality of fathers' child-centered interactions in this research (Metsäpelto & Pulkkinen, 2005).

Other investigators link mothers' personality traits to their parenting cognitions. Bornstein, Hahn, and Hayes (2011) find that mothers higher in openness to experience and conscientiousness have greater parenting knowledge about child development and that maternal openness to experience and extraversion are each positively linked to their perceived competence in parenting. Bornstein and colleagues also report that higher maternal openness to experience and lower maternal neuroticism are associated with greater parental investment in their children. In turn, greater neuroticism is linked to lower confidence and satisfaction in parenting. Similarly, mothers' extraversion predicts more social-oriented exchanges with their children, and their openness to experience, extraversion, and conscientiousness are positively linked to their learning-oriented exchanges with their children (Bornstein et al., 2011).

Moreover, there is some evidence that parents' personality moderates the relationship between demographic risk status and parenting behavior, but these associations differ for mothers and fathers. Kochanska and colleagues (Kochanska,

Aksan, Penney, & Boldt, 2007) report that mothers low in extraversion engage in more power assertive discipline with their children when their demographic risk status is high, but not when it is low. No such association is observed for mothers high in extraversion. Additionally, there are more positive associations between demographic risk and power assertive parenting among mothers from less stable childhood homes and among mothers who are low in conventionality (i.e., those who view themselves as unsocial and unconventional). Similarly, mothers lower in optimism, engage in less positive parenting, but only when demographic adversity is greater (Kochanska et al., 2007).

A somewhat different pattern of associations is observed for fathers. Among fathers high in neuroticism, demographic risk is associated with greater use of power assertive discipline. Among fathers low in conventionality from stable homes, the association between demographic risk and power-assertive parenting is especially strong. Moreover, in the context of demographic risk, fathers' extraversion, agreeableness, and optimism are related to more positive parenting, whereas fathers' low optimism and fathers' low conventionality are associated with less positive parenting (Kochanska et al., 2007).

In a Dutch sample, parents' personality is both directly related to their children's externalizing behaviors, and indirectly related to these behaviors via their poor parenting practices (Prinz, Onghena, Hellinckx, Grietens, Ghesquière, & Colpin, 2005). Greater parental emotional stability is negatively related to parents' over-reactivity, laxness, and coercion. Greater parental agreeableness and autonomy, also called openness to experience, are both linked to parents' over-reactivity and laxness in parenting, and parents' low extraversion was associated with greater laxness. Parents' over-reactivity

and coercion are positively related and greater laxness is negatively related to their children's externalizing behaviors. Parents' emotional stability and conscientiousness are directly negatively related to their children's externalizing behaviors, and parents' autonomy is directly positively associated with their children's externalizing behaviors (Prinz et al., 2005).

Based on these findings, it is reasonable in the present study to expect that parents' personality characteristics will be indirectly related to their children's peer relationships via their effects on parenting practices or other direct parental factors. Parents higher in extraversion, conscientiousness, agreeableness, and openness may be warmer with their children (Prinz et al., 2009) and some research shows that greater parental warmth is linked to children's greater likelihood of having more positive peer relationships (Hart *et al.*, 1990; Hart et al., 1992). In a similar vein, parents high in neuroticism may be less warm and more controlling with their children (Prinz et al., 2009), which in turn, may contribute to more negative peer relationships (Hart et al., 1990; Hart et al., 1992).

Child Effects

Children's own characteristics and behaviors are likely to impact their peer relationships. For instance, children may choose their playmates and the children with whom they want to become friends based on their own likes and dislikes. Children's age, gender, and temperament, may also contribute to the quantity and quality of their peer relationships.

Age. Across the early childhood period, children become more socially integrated with peers, and begin to have more reciprocated and closer friendships (Ramsey, 1995;

Quinn & Hennesy, 2010). The duration and variety of settings in which children interact with peers increase across the early childhood period (Sinclair, Pettit, Harrist, Dodge, & Bates, 1994). These age trends indicate that children have more extensive peer experiences as they grow older through preschool to kindergarten. Ladd argues that young children's peer relationships may help ease their transition from preschool to kindergarten (Ladd, 1990; Ladd & Price, 1987).

Moreover, young children's sociometric preferences and peer contacts tend to stabilize from ages three to five (Ramsey, 1995). Walker (2005) reports that older preschool-age children are more able to take the perspective of other children and more likely to engage in prosocial behaviors than younger preschool-age children. Children's reputations as being nice or not-nice play mates also stabilize during the preschool period, so that with increasing age, reputations better predict peer likability, and previous behaviors with peers better predict future social behaviors (Denham & Holt, 1993). For example, a child with an aggressive reputation is less liked by peers, even if the child behaves less aggressively over time.

Gender. Child gender is another factor that may influence children's peer relationships and friendships. Walker (2004) reports that teachers rate boys as more aggressive than girls (i.e., boys are more likely to engage in conflict and to use disruptive strategies to gain entry into a peer group than girls). However, in that study there are no gender differences in children's prosocial behaviors with peers (Walker, 2004). In other studies, girls are more prosocial and are less likely to engage in overt aggression with peers than boys, although girls may engage in more relational aggression (Sebanc, 2003). In a separate study, Walker (2005) reports that boys are

more physically and verbally aggressive than girls, and this gender difference is observable as early as two or three years of age. She also finds that preschool-aged girls are more competent in solving theory of mind tasks than boys, suggesting that they are more proficient at understanding the perspectives of others. Interestingly, girls' theory of mind task performance is related to increased prosocial behaviors, but boys' theory of mind performance is related to increased aggressive and disruptive behaviors (Walker, 2005).

Gender differences also exist in the specific factors that predict loneliness in early childhood. Boys who are more reticent with peers are more likely to be lonely, whereas girls who are more aggressive with peers are more likely to be lonely (Coplan, Closson, & Abreau, 2007). This finding suggests that, during the preschool period, aggression may not impact boys' peer relationships as negatively as it does girls' peer relationships. On the contrary, shy and withdrawn behaviors are more strongly linked to poor peer relationships for boys than for girls.

Temperament. Temperament is a very important, early-emerging, social-biological characteristic that has important implications for childhood peer relationships (Rothbart, Ahadi, & Hershey, 1994) and later personality development (Rothbart & Ahadi, 1994). Rothbart and colleagues describe individual differences in early childhood temperament in three main dimensions: Extraversion/Surgency (positive affect and approach); Negative Affect (negative emotionality and avoidance); and Effortful Control (self-regulation systems) (Ahadi & Rothbart, 1994). An important aspect of children's temperament is emotional regulation, which can promote or deter their peer relationships.

Eisenberg and colleagues show that poor emotion regulation is directly linked to poor peer relationships (Eisenberg et al., 1993; Eisenberg et al., 1995; Eisenberg et al., 1997). Associations among children's emotional regulation and their social competence appear to be specific to whether they are measured in the school or the home context: For instance, emotion regulation observed at home does not necessarily predict social competence in the school and emotion regulation observed at school does not necessarily predict social competence at home (Eisenberg et al., 1995). Of note, children's emotional regulation in preschool predicts their social competence with peers two and four years later (Eisenberg et al., 1997). Walden, Lemerise, and Smith (1999) also report that children's emotional regulation is associated with their friendships later in the school year, but not their current friendships.

Different dimensions of children's temperament often work together to impact their peer relationships. Children high in effortful control are better able to regulate their negative emotions during peer conflicts, and are better able to respond in a socially competent manner during highly intense positive peer interactions (Fabes et al., 1999). Dollar and Stifter (2012) show that engaging in social support-seeking when regulating negative emotions is linked to less mother-reported aggression, whereas children high in surgency are more likely to exhibit negative behaviors with peers. In contrast, children low in surgency are more likely to be withdrawn around peers (Dollar & Stifter, 2012). Gunnar and colleagues also report that children with greater surgency and lower effortful control are more likely to be aggressive with peers, which in turn predicts greater peer rejection (Gunnar, Sebanc, Tout, Donzella, & van Dulmen, 2003). Other findings by Dollar and Stifter (2012) demonstrate that highly inhibited children are least

likely to engage in peer interactions and conflicts, whereas highly exuberant children are most likely to engage in peer interactions and conflicts. Notably, children who persist at a task longer, display fewer negative social behaviors with peers in later childhood, regardless of level of surgency (Dolar & Stifter, 2012). Although the specific results vary, these findings highlight that different dimensions of temperament are linked to the quality of children's peer relationships and prosocial behaviors in early childhood and beyond.

Interestingly, temperament is also associated with individual differences in children's physiological reactions to peer interactions. Engaging in positive peer relationships increases the cortisol levels of highly inhibited children and decreases the cortisol levels of exuberant children (Tarullo, Mliner, & Gunnar, 2011). Notably, although children generally choose friends who are the same age and gender as they are, similarity in temperament does not appear to influence friendship formation (Gleason, Gower, Hohmann, & Gleason, 2005).

In addition, temperament is linked to children's social competence with peers. In a Turkish sample of five- to six-year-old children, children's approach, persistence and rhythmicity are positively associated with social impact and prosocial behaviors and negatively associated with aggression, asocial behaviors, exclusion, and victimization. Children's adaptive inflexibility is negatively associated with their positive social skills and positively related to their negative social skills (Gülay, 2012). Coplan and colleagues (2003) report that inhibition, shorter attention spans, and negative affect are related to lower social competence. Only under conditions of high parenting stress is children's resistance to control/inattentiveness related to low social competence. In

other research, child irritability and acceptance predict internalizing behaviors, and child irritability and fearfulness, along with parents' inconsistent discipline, each predict externalizing behaviors (Lengua & Kovacs, 2005).

Some research also suggests that child gender moderates the effect that temperament (including the ability to regulate emotions) has on childhood peer relationships. Girls tend to choose friends who have lower activity levels, whereas boys tend to choose friends with higher activity levels (Gleason et al., 2005). In research by Eisenberg and colleagues, both positive and negative emotion regulation are related to boys' (but not girls') quality of peer relationships. Only girls' negative emotion regulation is related to their quality of peer relationships (Eisenberg et al., 1993). Girls are slightly higher in negative emotionality and socially competent responses than boys, who have slightly more intense peer interactions than girls (Fabes et al., 1999). For boys, non-hostile verbal reactions to anger are linked to greater social competence, but their physical retaliation is linked to lower social competence. For girls, emotional venting is linked to lower social competence. (Eisenberg, Fabes, Nyman, Bernzweig, & Pinuelas, 1994).

Child temperament and parent personality associations. Since personality is moderately heritable (Ekehammar et al. 2009; van Tuijl, Branje, Dubas, Vermulst, & van Aken, 2005), parents' personality may be linked to their children's temperament. Not surprisingly, much of the research that focuses on parents' personality also evaluates child temperament. These studies investigate the bidirectional effects between parents' personality and children's temperament, and find that parent's personality traits influence parenting behaviors, and that children with different temperaments are

affected differently by different parenting styles. For instance, children's positive emotionality predict higher levels of maternal acceptance one year later (Lengua & Kovacs, 2005). Similarly children who are both fearful and irritable are more likely to have parents who engage in inconsistent discipline practices, but children's irritability, and not fearfulness, predict parents' later inconsistent discipline (Lengua & Kovacs, 2005).

Moreover, in research by Kochanska and colleagues (Kochanska, Kim, & Nordling, 2012) mothers high in conscientiousness use less power assertive discipline with their difficult, negative, defiant toddlers compared to mothers low in conscientiousness. Similarly, highly extraverted mothers used more power assertive discipline with their highly difficult children, compared to less extraverted mothers. In turn, mothers high in agreeableness engage in more responsive, positive parenting and less power assertion. Notably these associations are stronger when their children's temperament is easy and parents' perceived parenting stress is low, and attenuated when their children's temperament is difficult and perceived parenting stress is high. Additionally, for mothers of easy children, but not for mothers of difficult children, openness to experience is associated with more positive parenting (Kochanska, Kim, & Nordling, 2012).

How parental and child temperament characteristics are linked to children's peer relationships is not well studied. Variations in parents' personality may be linked to individual differences in children's temperament, which in turn alter children's peer relationships. For instance, parents who are high in extroversion and agreeableness may have children who are more sociable and have better peer relationships. Parents

who are high in openness to experience may have children who are less withdrawn and explore their environment more, leading to more peer interchanges. Parents who are high in conscientiousness may have children who are natural leaders, whom other children follow and want to associate. Similarly, parents high in neuroticism may have children with more negative affect and poorer emotion regulation, who in turn may exhibit more negative peer interactions (e.g. more aggressive or socially withdrawn) (Nigg & Hinshaw, 1998). However, very little research has evaluated such links.

The Present Study

The primary goal of the current study was to investigate whether the family-peer mesosystem contributes to children's peer relationships and prosocial behavior during the preschool period. Two dimensions of children's peer relationships were evaluated as the dependent variables in this study: children's peer-related problem behaviors and social skills (i.e., prosocial behavior). Both were evaluated via parent report. Specifically, this study sought to assess whether parental characteristics and behaviors (i.e. parental proximal and distal effects), as well as children's characteristics (age, gender, and temperament) are associated with preschoolers' peer relationships and social competence with peers.

The parental proximal factors in this study included their knowledge of their children's peer relationships and friendships, the advice they give to their children to improve their children's peer relationships (e.g., conflict resolution strategies), their supervision of and involvement in their children's play with peers, and their efforts to facilitate their children's peer relationships (e.g., setting up play dates). Parents' distal factors included their perceived parenting stress, their own social network and social

support, and their personality. Children's characteristics included age, gender, and temperament. Associations among parents' proximal and distal factors and children's characteristics were also tested.

Aims and Hypotheses

Four aims and associated hypotheses were evaluated in the present study.

Aim 1. The first aim was to evaluate whether the proximal parent factors listed above are associated with the two dependent measures of children's peer relationships: peer-related problems and social skills.

Hypothesis 1: It was hypothesized that parents' general knowledge of their children's peer relationships and their efforts to provide play dates for their children, the advice given to their children to improve their children's sharing and conflict resolution, their supervision of their children's play with peers, and their endorsement of parental involvement would predict their children's better peer relationships (i.e., fewer peer problems and better social skills, as indexed by prosocial behavior).

Aim 2. The second aim was to evaluate whether distal parental factors (listed above) were associated with the two dependent measures of children's peer relationships (peer problems and social skills).

Hypothesis 2a: It was hypothesized that higher parenting stress would negatively relate to children's peer relationships (i.e., more peer problems and less optimal social skills).

Hypothesis 2b: It was expected that parents with larger and more supportive social networks would have children with more positive peer relationships (i.e., fewer peer problems and better social skills).

Hypothesis 2c: It was hypothesized that the following parental personality traits (i.e., extraversion, agreeableness, conscientiousness, and openness to experience) would each positively relate to children's peer relationships. In contrast, it was expected that parents' neuroticism would negatively relate to their children's peer relationships.

Aim 3. The third aim was to evaluate associations among parents' proximal and distal factors. It was expected that parents' proximal factors and distal factors will be significantly related to each other. Specifically, it was hypothesized that:

Hypothesis 3a: Parents who report more parenting stress would show lower levels of knowledge, management and facilitation of their children's peer relationships. Similarly, parents who report greater parenting stress would also show lower levels of endorsement of parental involvement in children's peer relationships.

Hypothesis 3b: Parents with larger social networks and greater perceived social support would exhibit higher levels of knowledge, management, and facilitation of their children's peer relationships.

Hypothesis 3c: Parents' personality traits (i.e. higher levels of extraversion, agreeableness, conscientiousness, and openness to experience; and lower levels of neuroticism) would demonstrate higher levels of knowledge, management and facilitation of their children's peer relationships.

Aim 4. The fourth aim was to evaluate whether children's characteristics (age, gender, and temperament) are associated with their peer relationships and with parents' proximal and distal factors.

Hypothesis 4a: It was expected that older children would exhibit fewer peer-related problem behaviors and better social skills than younger children and that

younger children would receive more supervision of peer activity and advice regarding peer related behavior than older children. Compared to parents of younger children, it was anticipated that parents of older children would report that their children have more playmates and close friends. In turn, it was hypothesized that parents of younger children would report that they more often facilitate their children's peer relationships than parents of older children.

Hypothesis 4b: It was anticipated that girls would have fewer peer-related problems and better social skills than boys. Gender differences in parents' proximal factors were explored.

Hypothesis 4c: It was expected that children with greater negative affect would have less positive peer relationships (more peer problems and less prosocial behavior). Children lower in surgency would be more withdrawn and have less positive peer relationships. In contrast, children with greater effortful control would have more positive peer relationships (fewer peer problems and more prosocial behavior).

Hypothesis 4d: It was hypothesized that parents with children lower in surgency and effortful control and higher in negative affect would be more likely to use more strategies to manage and facilitate their children's friendships. Similar effects of child temperament were expected for parents' endorsement of these parental strategies in general. Associations between child temperament and parents' knowledge of playmates and close friendships were explored.

Hypothesis 4e: It was expected that parents of younger children would report higher levels of parenting stress than parents of older children, and that parents of boys would report more parenting stress than parents of girls. It was also hypothesized that

children's negative affect and surgency would be linked to greater parenting stress, and children's effortful control would be linked to lower parenting stress.

Hypothesis 4f: Associations between parents' personality and children's temperament were explored. It was expected that parents' extraversion, agreeableness, and openness to experience would positively relate to children's surgency, parents' conscientiousness would positively relate to children's effortful control, and parents' neuroticism would positively relate to children's negative affect.

CHAPTER 2 METHODS

Recruitment and Retention

The sample was recruited using two methods: (1) SONA, the Department of Psychology's online research participation system at Wayne State University ($n = 48$) and (2) using flyers ($n = 32$). Flyers describing the study were posted in early childhood centers and local preschools, and emailed to individuals in the Wayne State and greater Detroit metro community. Participants recruited through SONA received extra credit in their psychology courses for their participation. Participants recruited via flyers were given a \$5 gift card to thank them for their participating. All participants were invited to participate in a lottery in which they could win one of two \$50 gift cards or one \$250 gift card.

A total of 83 participants were recruited in the original study. Of these 83, five cases were deleted because they had no data and six cases were deleted because they had incomplete data. These six participants were missing data from entire measures, such as the child behavior questionnaire. Seven additional cases were deleted because the child's age fell outside of the required age range (3 to 7 years). Of these, two children were 2 years old, four were 8 years old, and one was 9 years old.

Analysis in the current study were based on survey data collected from the 65 parents of preschool aged children (aged 3 years to 6 years) who completed all of the questionnaires.

Sample Characteristics

Most of the parents retained in the sample were mothers ($n = 59$, 92%). The remaining participants were fathers. Parents varied in age and level of completed

education at the time of recruitment. Forty-two percent ($n = 27$) were between 20- and 30-years of age, another 42% ($n = 27$) were between 31- and 40-years of age, 14% ($n = 9$) were between 41- and 50-years of age, and 2% ($n = 1$) was over 50-years of age. One participant's age data was missing. Regarding level of education, 69% ($n = 45$) were currently enrolled in college, 18% ($n = 12$) had either a Master's or a Doctorate degree, 8% ($N = 5$) had a four-year degree, 3% ($n = 2$) had some college, and 2% ($n = 1$) had completed a high school diploma or a General Education Development (GED) certificate.

In addition, most of the parents in the sample (77%, $n = 50$) were married or partnered, whereas 15% ($N = 10$) were single (unpartnered), 6% ($n = 4$) were divorced, and 2% ($n = 1$) was widowed. Parents also varied in self-reported race/ethnicity. Forty-nine percent ($N = 32$) were Caucasian, 29% ($n = 17$) were African American, 9% ($n = 6$) were of Arabic/Middle-Eastern ethnicity, 8% ($n = 5$) were Hispanic, 3% ($n = 2$) were Native American, and 3% ($n = 2$) were African and 2% ($n = 1$) was Asian/Pacific Islander.

The ages of the children in this sample ranged from 3 to 7 years, with a mean age of 4.78 years ($SD=1.12$). Fifty-one percent ($n = 33$) were male and 48% ($n = 31$) were female. One child's gender was missing.

Procedure

Data in the present study were collected using an online survey administered via Survey Monkey. Prior to completing the questionnaires, parents completed an online informed consent form. Next, they reported on demographics, proximal and distal parenting factors, and their children's peer relationships and social skills. After

completing these surveys, parents completed a social desirability measure. The entire survey took about an hour to complete. Specific instruments and measures included in the survey are described below and are presented in Appendix A.

Measures

Demographics

Demographics Questionnaire. This brief questionnaire asked parents to report on their age, gender, race/ethnicity, marital status, household composition (number of adults and children in the household) and number of rooms in the household. Participants were also asked to report on their perceptions of the adequacy of their current income to meet household needs, and their current employment status. In addition, parents who attended Wayne State University were asked to report on their current year in school, their major, and their GPA from the last semester. Participants who were not attending Wayne State University, were asked to report on their highest level of education. These variables were evaluated as potential covariates in the statistical analyses.

Proximal parenting factors: Parents' management of children's peer relationships

Parent Perceptions of Preschoolers' Friendships (PPPF, Yu, Ostrosky, & Fowler, 2011). The PPPF measures parents' knowledge of and strategies used to support their preschoolers' peer relationships. It is designed specifically for use with parents of preschool aged children and consists of four parts: (1) children's age and gender; (2) children's playmates and close friends (i.e. number of close friends, frequency and locations of peer interactions, durations of peer relations); (3) parents' strategies used to assist children's friendships (i.e., facilitation of social activities with

peers, supervision, management, and involvement in children's peer interactions, children's interactions with siblings and neighborhood children, barriers to play dates, and provide children advice and information for appropriate social behavior and how to resolve peer conflicts); and (4) family information, including demographics.

The PPPF includes 38 items, including 26 that utilize a multiple choice format, five that utilize a yes-or-no format, two that utilize a multiple-response multiple-choice format, and four that utilize an open-ended response format.

Scoring yields four subscales, and two of these subscales were evaluated in the present study. These subscales include (a) *parents' knowledge of children's playmates and close friends* and (b) *parents' strategies used to manage and facilitate children's friendships*. The parents' knowledge of children's playmates and close friends subscale consists of 12 items and has good reliability, $\alpha = .89$. It measures the number of children's playmates and close friends, frequency of play with peers, and the quality of their friendships. For example, one item asks how many playmates the child has, one item asks about how often the child plays with the playmate outside of school, and another item assesses the relationship with close friends as liking each other most of the time, some of the time, not sure, or tolerating each other.

The parents' strategies subscale consists of 10 items and has relatively poor reliability in the present study, $\alpha = .53$. It measures the ways that parents help their children's peer relationships. Sample items include how often parents watch their children's play, suggesting activities to organize their play, and discussing feelings with the child during play.

The parents' knowledge of their children's play mates and close friends subscale and the parents' strategies used to manage and facilitate children's peer relationships subscale were used in analyses. Additionally 1 item, which measures the extent that parents should teach their children social behaviors, such as sharing and resolving conflict is used in analyses. It is rated on a 5 point scale, with 1 indicating less endorsement and 5 indicating more endorsement. This item is an indicator of parents' endorsement of parents in general managing and facilitating their children's peer relationships.

Distal parenting factors: Parenting stress, social network and social support, and personality

Parenting Stress Index (PSI-SF, Abidin, 1995). The PSI-SF consists of 36 questions designed to assess parents' perceptions of parenting related stress. Scoring yields three subscales: Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child, as well as a total score. Each subscale includes 12 items rated on a 5-point scale where 1 = *strongly disagree*, and 5 = *strongly agree*. Possible scores on each subscale range from 12-60, and possible scores on the total scale range from 26-180.

The Parental Distress subscale measures parents' perception of their own parenting competence, social support, negative relationship with the spouse, and stress from constraints placed on other roles. The Parent-Child Dysfunctional Interaction subscale measures the parent's perceptions of the child not meeting expectations and non-reinforcing interactions with the child. The Difficult Child subscale assesses parents' perceptions of the child's difficult temperament, noncompliance, and demandingness. Reitman, Currier, and Stickle (2002) reported that the PSI-SF has excellent internal

consistency: Cronbach alphas were .88 for Parental Distress, .88 for Parent-Child Dysfunctional Interaction, .89 for Difficult Child, and .95 for Total Stress. The PSI-SF also has good reliability in the current sample: Cronbach's alphas were .85 for Parental Distress, .86 for Parent-Child Dysfunctional Interaction, .82 for Difficult Child, and .90 for the Total score.

Each of the PSI-SF subscales and the total score were evaluated in the present study. The total score and the subscales were included in separate analyses.

The Hierarchical Mapping Technique (HMT, Antonicci, 1986). This "social map" assesses the size of individuals' perceived social support network. It consists of a diagram comprising of four concentric circles. The innermost circle contains the word YOU written in the middle. Participants are asked to place the names or initials of adults who provide them with support in each of the three remaining circles. For the *Inner Circle*, they are told to place "*those people to whom you feel so close that is hard to imagine life without them.*" The people in the *Middle Circle* are "*people to whom you may not feel quite that close but who are still important to you.*" Those in the *Outer Circle* are "*people whom you haven't already mentioned but who are close enough and important enough in your life that they should be placed in your personal network.*" The people in the inner circle are thought to be limited to a few very close relationships, including happily married spouses, close relatives, or best friends. Although the relationships in the middle circle are significant, they are not as important or distinctive as inner-circle memberships. These people are fairly close, however, and provide and receive more than one type of support, but the support is more limited than that received by, and severely affected by a change in role status. The relationships in the

outer circle are significant but less close than those listed in the inner or middle circles. The relationships are very role prescribed, such as a classmate or coworker with whom the parent gives and receives support in class or at work, but with whom, the parent does not see or does not wish to see outside of those specific environments.

In the present study, four measures were derived from the Hierarchical mapping Technique: the number of people in each circle: inner, middle, and outer, and a ratio of the number of people listed in the inner ring compared to the numbers listed in the total network (this measure taps the relative proportion of parents' close relationships relative to all people listed in their social network) .

The Multidimensional Scale of Perceived Social Support (MSPSS, Zimet, Dahlem, Zimet, & Farley, 1988) The MSPSS taps perceptions of the quality of an individual's social support. It consists of 12 questions, divided into 3 subscales: Family, Friends, and Significant Other. Each scale consists of 4 items. The reliability of the entire scale and its subscales is excellent. Cronbach's coefficient alpha is .91 for the total scale, .95 for the Significant Other subscale, .90 for the Family subscale, and .94 for the Friends subscale (Dahlem, Zimet, & Walker, 1991). Excellent reliability was also found for the MSPSS in the current sample: Cronbach's alpha was .97 for the total scale, .98 for the Significant Other scale, .96 for the Family scale, and .96 for the Friends subscale. Only the total score was used in the present analyses.

Big Five Inventory (BFI, John, Donahue, & Kentle, 1991). The BFI was used to measure five dimensions of parents' personality: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience. It contains 44 items, describing various personality characteristics and behaviors relevant to each dimension.

The participant indicates the extent of agreement or disagreement with each statement on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). Examples of characteristics include *"Generates a lot of enthusiasm," "Is helpful and unselfish with others," "Does things efficiently," "Can be moody,"* and *"Is ingenious, a deep thinker."* The BFI is widely used in the literature and has strong internal consistency. John, Naumann, and Soto (2008) report internal consistency alphas of .86 for Extraversion, .79 for Agreeableness, .82 for Conscientiousness, .87 for Neuroticism, .83 for Openness, and an overall mean alpha of .83. Strong internal consistency was also found for the BFI in the present sample: Cronbach alphas were .82 for Extraversion, .81 for Agreeableness, .82 for Conscientiousness, .80 for Neuroticism, and .78 for Openness

Children's characteristics. Children's age, gender, and temperament were evaluated as predictors of children's peer relationships and social skills in the present study.

Child Behavior Questionnaire (CBQ-VSF, Putnam & Rothbart, 2006). The CBQ-VSF was used to evaluate individual differences in child temperament in the current study. The CBQ-VSF is a parent-report instrument that assesses three dimensions of children's temperament: Extraversion/Surgency, Negative Affectivity, and Effortful Control. It includes 36 items, each rated on a 7-point scale, 1, *extremely untrue*, to 7, *extremely true*. Each dimension consists of 12 items. Internal consistency in prior research is adequate, with Cronbach alphas of .75 for Surgency, .72 for Negative Affect, and .74 for Effortful Control. In the current sample, the internal consistency was also

adequate, Cronbach's alpha = .76 for Surgency, .76 for Negative Affect, and .77 for Effortful Control.

Dependent variables. Two dependent variables were evaluated in this study as markers of the quality of children's peer relationships: children's peer-related problems and prosocial behavior.

Children's peer problems and social skills

Strengths and Difficulties Questionnaire (SDQ). The SDQ (Goodman, 1997) was used to assess the quality of children's peer relationships. It contains 25 items measuring children's attributes, of which 10 measure potential strengths, 14 measure potential difficulties, and one item is neutral. The SDQ is divided into 5 scales, each consisting of 5 items, which are labeled the Hyperactivity Scale, Emotional Symptoms Scale, Conduct Problems Scale, Peer Problems Scale, and the Prosocial Scale. Each item is rated on a 3-point scale ranging from "not true", "somewhat true", or "certainly true." In the present study, only the Peer Problems and Prosocial Behavior subscales were evaluated. The Peer Problems subscale taps into children's rejection by peers, including playing alone, being bullied by other children, and generally disliked by children. The Prosocial Behavior subscale taps children's social skills, such as considering of other people's' feelings, sharing with other children, and helping other people. "Prosocial behavior" and "social skills" are used interchangeably in this study.

Goodman (2001) reports significant empirical support for the 5-factor solution, and satisfactory reliability, with a mean of .73. In analyses based upon the parent-report version of the SDQ, the internal consistency of the SDQ subscales was adequate, with Cronbach alphas ranging from .57 to .82. In the present sample, the Peer Problems

subscale had an alpha of .52 and the Prosocial subscale had an alpha of .66, indicating fair to adequate internal consistency.

Social desirability

Marlowe-Crowne Social Desirability Scale (M-C SDS, Marlowe & Crowne, 1960). The M-C SDS was used in the present study to control for potential parental bias in completing the self-report measures described above. It contains 33 true-false statements that tap the extent to which participants are responding in a socially desirable manner. Eighteen items are keyed true and 15 are keyed false. The internal consistency and test-retest reliability of the M-S SDS in prior research are excellent (.88 and .89, respectively). In the current sample, the Cronbach's alpha for the M-C SDS was .80, indicating good internal consistency.

Statistical Analysis Plan

Preliminary analyses were conducted to screen the data and evaluate the distributional properties of the study variables. Univariate statistics were used to calculate descriptive statistics. Correlations, *t*-tests, and one-way Analysis of Variance (ANOVA) were used to examine bivariate relationships among variables. Relationships between the scale variables discussed above were examined with correlations. Relationships between child gender, and younger versus older children were analyzed with *t*-tests (Aim 2). Relationships between parents' age, race/ethnicity, and education level and the study variables were analyzed using one-way ANOVAs. The correlations are presented in Table 5. Tests for possible multicollinearity were conducted prior to carrying out the hierarchical regressions used to evaluate the study's aims, described below.

The first aim was to evaluate whether the proximal parent factors were associated with the quality of children's peer relationships. This aim was evaluated using hierarchical regression. Predictors included parents' strategies used to manage and facilitate their children's peer relationships, their endorsement of parental facilitating children's peer relationships, and parents' knowledge of their children's playmates and close friends. Two separate hierarchical regressions utilizing the same predictor variables were used for the two dependent variables (peer problems and social skills, as indexed by prosocial behavior).

The second aim was to evaluate whether the distal parental factors were associated with the two dependent measures (peer problems and social skills). This aim was tested using a series of hierarchical regression analyses. In the first set of regression analyses, the parenting stress variables were entered as predictors of children's peer problems and social skills. A separate regression was carried out for each criterion variable. In the next set of regression analyses, the social map hierarchy variables and the social support variables were predictors of children's peer problems and social skills in separate regressions for each criterion variable. In the next set of hierarchical regressions the personality variables were tested as predictors of children's peer problems and social skills respectively.

The third aim was to evaluate associations among parents' proximal and distal factors. These associations were evaluated using tested a series of hierarchical regressions. In the first set of regressions, the parenting stress variables were examined as predictors of parents' strategies to manage and facilitate their children's peer relationships and (in a separate regression) parents' endorsement of managing and

facilitating children's peer relationships. In the second set of regressions the social map hierarchy variables and social support variables were evaluated as predictors of parents' strategies to manage and facilitate their children's peer relationships and (in a separate regression) parents' endorsement of managing and facilitating children's peer relationships. In the third set of regressions, the personality dimensions were evaluated as predictors of parents' strategies to manage and facilitate their children's peer relationships and (separately) parents' endorsement of managing and facilitating children's peer relationships, respectively.

The fourth aim was to evaluate whether child age, gender, and temperament were associated with the quality of children's peer relationships and with parents' proximal and distal factors. *T*-tests were used to examine age and gender differences in peer problems and social skills and in parents' proximal and distal factors. Separate regression analyses were used to examine the effects of child temperament on children's peer problems, social skills, and on the proximal and distal parental factors. A separate set of regression analyses tested the child temperament variables predicting parents' strategies for managing and facilitating children's peer relationships and parents' knowledge of children's play mates and close friends, respectively.

CHAPTER 3 RESULTS

Data Screening

A missing values analysis was run, and the Little and Rubin (1987) Missing Completely at Random test indicated that the data was missing completely at random, $\chi^2(126) = 119.02$, $p = .66$. No data was imputed. No significant differences were found between the missing data and the complete data so only the complete data were evaluated in further analyses.

Next, the raw data from the surveys were transformed into standardized values to detect univariate outliers. Standard scores above 3.29, $p < .001$, are considered outliers and were Winsorized (Ismail, 2008). On the Hierarchical Mapping Technique, for the variable "the number of people in the inner circle," there was one outlier with a standard score of 3.91. For "the number of people in the middle circle" variable, there was one outlier with a standard score of 6.68. For "the number of people in the outer circle" variable, there was one outlier with a standard score of 6.71. For each of these instances, the outlier raw score was replaced with a value one unit higher than the next highest score. For the number of people in the inner circle, the highest value of 25 was replaced with a 17. For the number of people in the middle circle, the highest value of 71 was changed to a 32. For the number of people in the outer circle the highest score of 76 was changed to a 30.

The HMT social network size variables were then recoded into ordinal variables to reduce skew by combining the smallest numbers and combining the largest numbers into separate categories, while the numbers in the middle retained their original values. For example, the number of people in the inner circle variable was recoded so that the

numbers of 3 and lower were combined into one value and the numbers 10 and higher were combined into a highest value, and every number in between remained the same. For the number of people in the middle circle, the numbers 0 and 1 were coded into the lowest value and the numbers of 10 through one were coded into the highest value, and the numbers in between were coded the same as the original values. On the number of people in the outer circle, only the highest numbers were recoded so that the numbers 12 and higher were the highest value, and the remaining numbers were coded the same as before. An additional variable was created that indicated the overall closeness of the network by creating a ratio of the number of people in the inner circle by the total number of people in the social network. This variable, which was created by the author, has not been previously found in the literature.

For the measures of parents' personality (BFI), agreeableness had one outlier (standard score of -3.93). These outliers were dealt with through transformation of the variables which will be described later. Multivariate outliers were detected using Mahalanobis distance, with values exceeding 45.32 declared outliers, $\chi^2(20) = 45.315$, $p = .001$. None of the Mahalanobis Distance values for any variable exceeded the cut-off value.

The study variables were also evaluated for their distributional properties. When variables were mildly skewed, the variables were transformed to approximate a normal distribution using square root. When variables were more severely skewed, logarithm transformations were used, following the procedures outlined by Tabachnick and Fidell (2007). Variables needing transformations are described below.

Regarding the measures of parenting stress, square root transformations were used for the PSI-SF Total score and the Parental Distress subscale. The Parent-Child Dysfunctional Interaction subscale was transformed using a logarithm. The Difficult Child subscale did not need to be transformed.

Regarding the perceived social support measures, the MSPSS Total Score and the Friends score were skewed and transformed using square root; that is, scores were reflected by subtracting the original score from one unit higher than the highest possible score. In this case, the highest score was 7 and all the scores were subtracted by 8. The Significant Other and Family subscales were each transformed via logarithm of reflected scores. Scores were reflected first because the variable was negatively skewed (Tabachnick & Fidell, 2007).

For the BFI personality measure, agreeableness was the only personality scale that needed transforming. This was accomplished using square root on the reflected scores. Scores were all reflected the same way for this scale as described earlier, but original scores were subtracted from 6 because the highest score possible was a 5.

One item from the PPPF, which measures parents' endorsement of parental facilitation of children's peer relationships, was transformed through square root on the reflected score. In this case, reflecting the scores was done by subtracting the original score from 6 because the highest possible score was 5. The other two scales of the PPPF described previously did not need to be transformed.

Regarding the peer relationships measure (SDQ), a square root transformation was used for the Peer Problems subscale, whereas a square root transformation was used on reflected scores of the Prosocial Behavior subscale. These scores were

reflected by subtracting the original scores from 3. The Social Desirability Scale total score did not need transformation.

Potential multicollinearity among the predictor variables included in the regression analyses was evaluated by using tolerance numbers lower than .10, condition index value greater than 30, and variance proportions of two or more for each variable greater than .50 (Cohen, Cohen, West, & Aiken, 2003). No issues with multicollinearity were found for the parents' strategies used to manage and facilitate children's peer relationships variable, parents' knowledge of children's play mates and close friends variable, and parents' endorsement of parental facilitation of children's peer relationships variable. All of the tolerance values were above .83, the condition index was 27.35, and for each variable only one variance proportion was above .50.

Similarly, no issues with multicollinearity were found for the three parenting stress (PSI-SF) subscales. Tolerance values ranged from .69 to .76, The condition index of 10.93 was much less than 30, and none of the variance proportions for each subscale was above .50 more than once.

No issues for multicollinearity were found for the three HMT social network map variables. The lowest tolerance value was .47, the condition index was 7.60, and for each variable only one of the variance proportions exceeded .50. However for the outer circle, one variance proportion was .52 and another was .45, which is close to .50. Thus, there is a possible issue with multicollinearity with the Perceived Social Support subscales. The tolerance values are relatively low, although still above .10. The lowest is .23, and the next lowest is .26. However, the condition index was 17.02, and none of the variables had 2 or more variance proportions above .50. For the Significant Other

subscale, one variance proportion was .47 and another was .40, which is an issue. Therefore, only the social support total score was used in the regression analyses.

No evidence of multicollinearity was found for the personality variables. All of the tolerance values were greater than .52, the condition index was above 30 at 42.94, but no more than one variance proportion was above .50 for each variable.

In addition, no issues with multicollinearity were found for the three CBQ temperament variables. The tolerance values were all high, ranging from .89 to .96. The condition index was 25.57, and the variables had no more than one variance proportion above .50.

Evaluation of Potential Covariates

Parents' social desirability in their responses to the questionnaires was tested as a potential covariate. This was accomplished by first analyzing correlations with the dependent variables. Social desirability was not statistically significantly correlated with either children's peer problems, or children's prosocial behaviors. The correlation between parents' social desirability and the parenting stress total score approached significance. Parents' social desirability was negatively correlated with their self-reported parental distress. Social desirability was not statistically correlated with the other two parenting stress subscales. Social desirability was positively correlated with parents' knowledge of children's playmates and close friends and with parents' strategies used to manage and facilitate their children's peer relationships. Social desirability was also not statistically significantly correlated with the three temperament scales either. All of the correlations are presented in Table 5.

Some of the demographic variables were recoded for analysis. For the parental age variable the two categories of 41 to 50 years old and above 50 years old were combined into one category: above 40 years old. This was done because there was only one participant in the above 50 years old category. Parental race/ethnicity was also recoded. Participants who reported their ethnicity as Arabic or Middle Eastern were placed into a separate category. The one participant who self-identified as Asian or Pacific Islander was re-coded into the "other" category. The new categories of parental ethnicity are: African American, Caucasian, Hispanic, Arabic or Middle Eastern, and Other. A new parental education variable was created by categorizing all of the participants who were attending Wayne State University at the time of the study as currently enrolled in college. This was added to the highest level of education variable asked to participants who were not attending Wayne State University at the time of the study. The two categories of GED or high school diploma and some college were combined into a single category because only one participant was in the GED or high school diploma category. Similarly, the parents' household income was recoded into six with larger income ranges: less than \$20,000, \$20,000 to \$40,000, \$40,000 to \$60,000, \$60,000 to \$80,000, \$80,000 to \$100,000, and greater than \$100,000.

Demographic variables were then evaluated as potential covariates. One-way between-subject ANOVAs examined relationships between the parental demographic factors and children's peer problems, prosocial behaviors, and parents' knowledge of their children's playmates and close friendships. The first ANOVA found no statistically significant differences in children's peer problems by parental age groups ($F(3,60) = 2.10, p = .13$). The second ANOVA also found no statistically significant differences in

children's prosocial behaviors by parental age groups ($F(3,60) = .62, p = .54$). The next ANOVA also found no statistically differences in parents' knowledge of their children's peer relationships by parental age groups ($F(2,61) = .35, p = .70$).

The next two ANOVAs examined differences in parents' strategies used to manage and facilitate their children's peer relationships and parent's endorsement of parental facilitation of children's peer relationships by parental age. The first ANOVA found no statistically significant difference between by parental age groups in parents' strategies used to manage and facilitate their children's peer relationships ($F(2,61) = 1.01, p = .37$). The second ANOVA found a statistically significant difference in parents' endorsement of parental facilitation of children's peer relationships by parental age groups ($F(2,61) = 6.34, p = .003$). Tukey tests were utilized to examine the specific differences between group means and found that parents in the 31 to 40 years old age group reported greater endorsement ($\bar{X} = 1.39$) than parents in the 20 to 30 years old age group ($\bar{X} = 1.12$).

The next set of analyses examined differences in the same variables described above by parental ethnicity. An ANOVA found no statistically significant differences in children's peer problems by parental ethnicity ($F(4,60) = .33, p = .86$). An ANOVA also found no statistically significant differences in children's prosocial behaviors by parental ethnicity ($F(4,60) = .77, p = .55$). The next ANOVA also found no statistically differences in parents' knowledge of their children's playmates and close friends by parental ethnicity ($F(4,61) = .55, p = .70$). The next ANOVA found no statistically significant difference in the strategies parent use to manage and facilitate their children's peer relationships ($F(4,60) = 1.74, p = .15$). The next ANOVA also found no

statistically significant differences in parents' endorsement of parental facilitation of children's peer relationships by parental ethnicity ($F(4,60) = 1.08, p = .38$).

The next set of analyses examined differences in the same variables by parental education. An ANOVA examining differences between children's peer problems by parental education approached significance ($F(3,61) = 2.67, p = .06$). Tukey tests examined the specific differences between group means and found that parents in the currently enrolled in college group reported greater child peer problems ($\bar{X} = .51$) than parents in 4-year degree group ($\bar{X} = .10$). These values are the square root transformations of the original scores. An ANOVA found no statistically significant differences in children's prosocial behavior by parental education ($F(3,61) = 1.09, p = .36$). An ANOVA also found no statistically significant differences in parents' knowledge of their children's playmates and close friends by parental education ($F(3,61) = .88, p = .46$). An ANOVA found no statistically significant differences in parents' strategies used to manage and facilitate children's peer relationships ($F(3,61) = .99, p = .40$). An ANOVA found no statistically significant differences in parents' endorsement of parental facilitation of children's peer relationships by parental education ($F(3,61) = 1.40, p = .25$).

The next set of analyses examined differences by parents' household income in child peer problems, prosocial behaviors, and parents' knowledge of their children's playmates and close friendships. The first one-way ANOVA found no statistically significant differences in child's peer problems by parental education ($F(6,56) = .52, p = .76$). A second ANOVA found no statistically significant differences in child's prosocial behaviors ($F(6,56) = .24, p = .94$). A third ANOVA found no statistically significant

differences in parental knowledge of children's playmates and close friends by household income ($F(5,57) = .58, p = .72$).

The next two analyses examined differences by parental income in parents' strategies used to manage and facilitate children's peer relationships and parents' endorsement of facilitating children's peer relationships by parental education. The first ANOVA found no significant differences in parental strategies used to manage and facilitate child peer relationships ($F(5,57) = .29, p = .92$). The second ANOVA also found no statistically significant difference between parental endorsement of parental facilitation of children's peer relationships ($F(5,57) = .72, p = .61$).

Based on these results, only parental education was included as a covariate in analyses evaluating children's peer problems and only parental age was included as a covariate in analyses testing parents' endorsement of parental facilitation of children's peer relationships. No other parental demographic variables were retained as covariates.

Descriptive Statistics

Descriptive statistics for the study's variables are provided in Tables 1 through 4.

Aim 1 Results

The first aim was to evaluate whether the three proximal parental factors (parental strategies used for promoting children's peer relationships, parental knowledge of children's play mates and close friendships, and parental endorsement of parental involvement promoting children's peer relationships) were each associated with the two dependent measures of children's peer relationships: peer-related problems and prosocial behaviors. The hypotheses associated with this aim were evaluated using

hierarchical regression. Social desirability was not statistically significantly related to the two dependent measures of children's peer relations, therefore social desirability was not tested as a covariate.

Hypothesis 1 results. The first hypothesis was that the three proximal parenting factors (the strategies used to manage and facilitate children's peer relationships, their knowledge of their children's peer relationships, and their endorsement of parental facilitation) would each predict their children's better peer relationships (i.e., fewer peer problems and better social skills), adjusting for parental education level. The first regression tested the hypothesis that parents' management of their child's friendships, their beliefs of the importance of facilitating their children's peer relationships, and their knowledge of their children's play mates and close friends would negatively relate to children's peer problems. In the first step of the regression predicting children's peer problems, parental education was not a significant predictor, $R^2 = .01$, $F(1,63) = .92$, $p = .34$. However, in the second step, when the three proximal parental factors were added, the model was statistically significant, $R^2 = .14$, $F(4,60) = 2.49$, $p = .05$, and the R^2 change of .13 was also statistically significant, $p = .04$. In the second model, parental education was statistically non-significant. The parents' knowledge of their children's playmates and close friendships was a significant individual predictor. As parents' knowledge of their children's play mates and close friends increases, children's peer problems decrease. Parents' strategies used to manage and facilitate children's peer relations was a statistically non-significant predictor, as was parents' endorsement of such behaviors. (See Table 6).

The hypothesis that the same three proximal parental factors would positively relate to children's prosocial behaviors was then tested in a second regression analysis. No covariates were significantly related to children's prosocial behaviors and thus not included in analyses. The regression model was statistically non-significant, $R^2 = .08$, $F(3,61) = 1.83$, $p = .15$.

Aim 2 Results

The second aim was to evaluate whether distal parental factors (e.g., parenting stress, social support, and personality characteristics) are associated with the two dependent measures of children's peer relationships (peer problems and social skills). Once again social desirability was not evaluated as a covariate because it was not related to the two dependent measures.

Hypothesis 2a results. The hypothesis that parenting stress would be negatively associated with children's peer relationships was tested in a series of regressions. Once again parents' highest level of education attained was controlled for by entering parental education in the first step of each regression, and then entering the parenting stress predictor(s) in the second step. The first regression tested the PSI-SF parenting stress total score as a predictor of children's peer problems. These results are presented in Table 7. In the first step, parental education was not significant, but when the PSI-SF total score was added as a predictor in the second step, the model became statistically significant, $R^2 = .10$, $F(2,62) = 3.65$, $p = .03$, and the R^2 change of .09 was also statistically significant, $p = .02$. Findings indicate that, as overall parenting stress increases, children's peer problems also increase.

The second regression model tested the three PSI-SF subscales (Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child) as predictors of children's peer problems, after adjusting for parental education. In the first step, parental education was not a significant predictor. In the second step, none of the three parenting stress subscales were significantly related to children's peer problems, $R^2 = .10$, $F(4,60) = 1.74$, $p = .15$.

The third and fourth regressions utilized children's prosocial behaviors as the dependent variable. The third regression evaluated whether the PSI-SF total score was a significant predictor of children's prosocial behavior. Results are presented in Table 8. The PSI-SF total score accounted for a statistically significant amount of the variance. Once again total parenting stress explained a significant amount of the variance in children's prosocial behaviors. As overall parenting stress increases, children's prosocial behavior decreases. The fourth regression evaluated whether the three PSI-SF subscales were significant predictors of children's prosocial behaviors. Results of this study are presented in Table 9. The model with the parenting stress subscales as predictors was statistically significant. However, none of the individual parenting stress subscales were statistically significant predictors.

Hypothesis 2b results. The next set of regressions tested the hypothesis that the HMT social network size variables and the MSPSS perceived social support total score would be associated with children's peer problems and prosocial skills. Once again social desirability was not evaluated as a covariate because it was not related to children's peer problems or prosocial behavior. The HMT network size included the recoded number of people in the person's inner circle, the recoded number of people in

the person's middle circle, and the recoded number of people in the person's outer circle. An additional measure of the HMT network size was a ratio of the number of people in the inner circle to the total number of people in the social network.

In the first regression, the HMT network size variables, excluding the ratio variable, in addition to the MSPSS perceived social support total score, were tested as predictors of children's peer problems, adjusting for parental education. In the first step, parental education was not significant, and with the three HMT social network predictors added, the model continued to be statistically non-significant, $R^2 = .08$, $F(4,60) = 1.31$, $p = .28$. The second regression tested whether the same HMT social network size variables and MSPSS perceived social support total variable predicted children's prosocial behaviors. This model was also statistically non-significant, $R^2 = .10$, $F(4,60) = 1.76$, $p = .15$.

The next set of regressions examined the ratio of the people in the inner circle to the total number of people in social network map along with the social support total variable in predicting children's peer problems and children's prosocial behaviors. The first regression tested whether the social support network ratio variable and the MSPSS total perceived social support variable in predicting child peer problems, adjusting for parental education. In the first step, parental education was not statistically significant. In the second step, the model including the social network map ratio and perceived social support total score variables was also not statistically significant. $R^2 = .08$, $F(3,61) = 1.75$, $p = .17$. The next regression predicting child prosocial behaviors from the social network map ratio and perceived social support total score variables was statistically significant, $R^2 = .10$, $F(2,62) = 3.36$, $p = .04$. The perceived social support

total score was the statistically significant individual predictor. (See Table 10). As the social support total score increased, children's prosocial behaviors also increased.

Hypothesis 2c results. The next set of regressions evaluated whether parent's personality characteristics (*i.e.* extraversion, agreeableness, conscientiousness, openness to experience, and neuroticism) would be associated with children's peer relationships (peer problems and prosocial behavior).

The first regression tested the predictors of extraversion, agreeableness, conscientiousness, neuroticism, and openness on children's peer problems, adjusting for parental education. In the first step parental education was not a statistically significant predictor. In the second step, with the addition of the personality measures, the model became statistically significant, R^2 change = .32, $F(5,58) = 5.49$, $p < .001$. Agreeableness was the individual predictor significantly contributing to most of the increase in explained variance. These results are shown in Table 11.

Agreeableness was reflected for the transformation so the positive beta indicates a negative relationship between parents' agreeableness and children's peer problems.

The second regression tested the same personality measures on children's prosocial behavior. None of the covariates were evaluated because they were not statistically significantly associated with the dependent measure. The model was statistically significant, $R^2 = .18$, $F(5,59) = 2.59$, $p = .04$. Extraversion emerged as the sole significant individual predictor. Parents' extraversion was positively related to children's prosocial scores, which were reflected before transformed. These results are shown in Table 12.

Aim 3 Results

The third aim was to evaluate associations among parents' proximal and distal factors. It was expected that parents' proximal factors and distal factors would be significantly related. Social desirability was statistically significantly associated with two of the dependent measures: parent's strategies used to manage and facilitate children's peer relationships and parents' knowledge of children's playmates and close friends. Parental age was statistically significantly associated with parents' endorsement of parental management of children's peer relationships. In order to test these variables as covariates, social desirability or parental age was entered in the first step depending on the dependent measure, and the predictor variables were entered in the second step.

Hypothesis 3a results. It was expected that parents who report more parenting stress would show lower levels of knowledge about their children's playmates and close friends, and fewer strategies for managing and facilitating their children's peer relationships. This hypothesis was evaluated using a set of hierarchical regressions controlling for social desirability.

The first and second regressions evaluated the association between parenting stress and parents' strategies for managing and facilitating their children's peer relationships as the dependent variable.

The first regression tested the hypothesis that the PSI-SF total score was a significant predictor. (See Table 13). Social desirability was a statistically significant predictor in the first step, $R^2 = .16$, $F(1,62) = 11.75$, $p = .001$. When the PSI-SF total score was added to the model in the second step, both social desirability and total parenting stress were significant predictors, R^2 change = .22, $F(2,61) = 4.80$, $p = .03$.

Greater total parenting stress was associated with fewer parental strategies for managing and facilitating their children's peer relationships, adjusting for social desirability.

The second regression evaluated whether the three parenting stress subscales would predict parents' strategies in managing and facilitating their children's peer relationships. Once again, social desirability was a significant predictor in the first step, $R^2 = .16$, $F(1,62) = 11.75$, $p = .001$. When the three parenting stress subscale predictors were added to the model in step 2, their addition accounted only for a marginal increase in the amount of variance explained, $R^2 \text{ change} = .09$, $F(4,59) = 2.28$, $p = .09$. (See Table 14).

The third and fourth regressions evaluated the association between parenting stress and parents' knowledge of their children's playmates and close friends. The third regression tested the parenting stress total score in predicting children's playmates and close friends. The first step with social desirability as the sole predictor was statistically significant. However, in the second step the addition of the parenting stress total score did not statistically significantly improve prediction, $R^2 \text{ change} = .01$, $F(1,61) = .52$, $p = .47$.

The fourth regression tested the parenting stress subscales in predicting parents' knowledge of children's playmates and close friends. The first step with social desirability as the predictor was once again significant, but the second step with the parenting stress subscale predictors did not statistically significantly improve prediction, $R^2 \text{ change} = .06$, $F(3,59) = 1.46$, $p = .24$. This suggests that the individual parenting stress subscales did not add significantly to the variance explained by social desirability,

which was no longer significant in the second step. However, parenting distress was a significant individual predictor. See Table 15. As parenting distress increased children's playmate and close friend scores decreased.

The fifth and sixth regressions evaluated the association between parenting stress and parents' endorsement of parental facilitation of children's peer relationships. Social desirability was not evaluated as a covariate because it was not statistically significantly associated with the dependent variable. Parental age was evaluated as a covariate, because it was statistically significantly associated with parents' endorsement of parental facilitation of children's peer relationships.

The fifth regression tested the parenting stress total score in predicting parents' endorsement of facilitating children's friendships. In the first step, the parental age variable was a statistically significant predictor, $R^2 = .08$, $F(1,62) = 5.74$, $p = .02$. When the PSI-SF total score was added to the model in the second step, both parental age and total parenting stress were significant predictors, R^2 change = .07, $F(2,61) = 4.73$, $p = .03$. The item for parents' endorsement of facilitating children's peer relationships was reflected for transformation, so the positive beta indicates a negative relationship between total parenting stress and parents' endorsement. These results are shown in Table 16.

The sixth regression tested the PSI-SF subscales in predicting parents' endorsement of facilitating children's peer relationships. In the first step, parental age was a statistically significant predictor. In the second step, the addition of the PSI-SF subscales did not significantly improve prediction of parents' endorsement, R^2 change =

.07, $F(3,61) = 1.63$, $p = .18$. The PSI-SF subscales were all non-significant individual predictors.

Hypothesis 3b results: It was hypothesized that parents with larger social networks and greater perceived social support would exhibit higher levels of knowledge about their children's playmates and close friendships, and more strategies for managing and facilitating their children's peer relationships. This hypothesis was evaluated using a series of hierarchical regressions, adjusting for social desirability.

The first and second regression evaluated parents' strategies for management and facilitation of children's peer relationships as the dependent variable. The first regression tested whether parents' social network size (number of persons in the inner, middle, and outer circles, as assessed using the HMT) and total perceived social support were significant predictors. Social desirability was a statistically significant predictor in the first step, $R^2 = .16$, $F(1,62) = 11.75$, $p = .001$. When the HMT social network size predictors and the MSPSS perceived social support total score were added to the model in the second step, the model remained significant, $R^2 = .23$, $F(5,58) = 3.47$, $p = .008$. However, the HMT variables and MSPSS total score did not improve prediction, R^2 change = .08, $p = .20$. None of the independent variables were significant individual predictors.

The second regression tested whether the ratio of close relationships to the total number of people in the social support network and the MSPSS perceived social support total score were significant predictors of parents' strategies for managing and facilitating their children's peer relationships. In the first step, social desirability was a statistically significant predictor. In the second step, the addition of the ratio of social

support network closeness and the social support total score did not significantly improve prediction, R^2 change = .06, $F(3,60) = 2.42$, $p = .10$. The whole model remained statistically significant though, $R^2 = .22$, $F(3,60) = 5.71$, $p = .002$. The MSPSS perceived social support total score was a significant individual predictor. (See Table 17).

The third regression tested whether the HMT social network size variables, and the perceived social support total score variable predicted parents' knowledge of children's playmates and close friends. The first step was with social desirability as the lone predictor was significant, $R^2 = .10$, $F(1,61) = 6.89$, $p = .01$. The second step with the social network size predictors added remained significant, $R^2 = .21$, $F(5,58) = 3.09$, $p = .02$. (See Table 18). Social desirability remained a statistically significant individual predictor and the social support total variable approached statistical significance.

The fourth regression tested whether the ratio of social support network closeness variable and the MSPSS perceived social support total score were significant predictors of parents' knowledge of children's playmates and close friends. The first step with social desirability as the sole predictor was statistically significant. The second step with the addition of the ratio of closeness of the social support network and the total perceived social support variables statistically significantly improved prediction, R^2 change = .09, $F(2,60) = 3.33$, $p = .04$. The perceived social support total score was a significant individual predictor, but the ratio of closeness of the social support network was not significant. These results are shown in Table 19.

The fifth and sixth regressions tested the HMT social network map variables and the MSPSS perceived social support network as predictors of parents' endorsement of

parental facilitation of children's peer relationships. Social desirability was unrelated to parental endorsement and was not evaluated as a covariate. Parental age was related to the dependent variable and was evaluated as a covariate.

The fifth regression evaluated whether the three HMT social support network size variables and the MSPSS perceived social support total score were significant predictors of parents' endorsement of parental facilitation of children's peer relationships. The first step with parental age as the sole predictor was statistically significant, $R^2 = .08$, $F(1,62) = 5.74$, $p = .02$. The second step with the HMT social network size and the MSPSS total social support variables added, remained significant $R^2 .19 = .10$, $F(5,58) = 2.70$, $p = .03$, but the model did not add to the prediction of parental endorsement, R^2 change = .10, $p = .13$. None of the independent variables were statistically significant individual predictors.

The sixth regression evaluated whether the ratio of close relationships to the total number of people in the social support network and the MSPSS perceived social support total score significantly predict parents' endorsement of parental facilitation of children's peer relationships, adjusting for parental age. In the first step, parental age was a statistically significant predictor, $R^2 = .08$, $F(1,62) = 5.74$, $p = .02$. In the second step, the addition of the HTM ratio of closeness variable and the MSPSS total perceived social support variable did not statistically significantly improve prediction, R^2 change = .08, $F(2,60) = 2.77$, $p = .07$. None of the independent variables were significant independent variables.

Hypothesis 3c results. It was expected that parents' personality characteristics (i.e., higher levels of extraversion, agreeableness, conscientiousness, and openness to

experience; and lower levels of neuroticism) would be related to more parental strategies for managing and facilitating their children's peer relationships, adjusting for social desirability and greater parental knowledge of their children's playmates and close relationships.

The first regression tested whether parental personality characteristics were associated with parents' strategies for managing and facilitating their children's peer relationships. Social desirability was significant in the first step, $R^2 = .16$, $F(1,62) = 11.75$, $p = .001$. When the parental personality measures were added to the model in Step 2, the model remained significant, R^2 change = .15, $F(5,57) = 2.47$, $p = .047$. One individual predictor, agreeableness, accounted for the significant increase in variance in this step. (See Table 20). As parents' agreeableness increased so did their strategies for managing and facilitating their children's peer relationships.

The second regression evaluated whether parental personality measures were significant predictors of parents' knowledge of their children's playmates and close friends. Social desirability was a significant predictor in the first step, $R^2 = .10$, $F(1,62) = 6.89$, $p = .01$. However, when the personality variables were added to the model in step 2, the model was reduced to marginal significance, $R^2 = .17$, $F(6,57) = .96$, $p = .09$. The change in R^2 (.07) also was not statistically significant, $p = .44$. (See Table 21).

The third regression evaluated whether parent personality measures were significant predictors of parents' endorsement of parental facilitation of children's peer relationships. The first step with parental age as the sole predictor was statistically significant, $R^2 = .08$, $F(1,62) = 5.74$, $p = .02$. The second step with the personality measures added statistically significantly improved prediction, R^2 change = .31, $F(5,57)$

= 5.94, $p < .001$. (See Table 22). Parents' agreeableness and their openness to experience were significant individual predictors. Agreeableness and parental endorsement were both reflected before they were transformed. The positive beta for agreeableness and negative beta for openness indicate that each is positively associated with parents' endorsement of parental facilitation of children's peer relationships.

Aim 4 Results

The fourth aim was to evaluate whether children's characteristics (age, gender, and temperament) were associated with their peer relationships and with parents' proximal and distal factors. These hypotheses were evaluated using t-tests.

Hypothesis 4a. It was hypothesized that older children, compared to younger children, would participate in more play dates and have play dates that take place in a greater variety of locations. It was also expected that older children would exhibit fewer peer-related problem behaviors and better social skills. Conversely, it was expected that younger children would receive more parental supervision of their peer activities and more advice regarding peer-related behavior than older children.

To evaluate this hypothesis, children's age was dichotomized into a younger group of children, ages 3 to 4 years, and a group of older children, ages 5 to 7 years. The child age median was 5, and two age groups were created using a median split, resulting in relatively equal numbers in the younger age group ($n = 31$) and the older age group ($n = 34$). Independent samples *t*-tests were used to analyze differences between younger and older children regarding their peer problems, prosocial behaviors,

their parents' strategies for managing and facilitating peer relationships and their parents' knowledge of playmates and close friendships.

The first *t*-test analyzed whether child age groups would significantly associate with children's peer problems. The results of this analysis were marginally significant, $t(62) = 1.77, p = .08$. A second *t*-test analyzed whether age groups would be significantly associated with children's prosocial behaviors. That also was not statistically significant, $t(63) = -.49, p = .63$. A third *t*-test evaluated whether age groups would be associated with parents' strategies for managing and facilitating their children's peer relationships. Results revealed that parents of younger children utilized more strategies for managing and facilitating their children's peer relationships (younger group, $M = 3.44$; older group $M = 3.16$), $t(63) = 2.66, p = .01$. The fourth *t*-test evaluated whether age groups would be associated with parents' knowledge of children's play mates and close friendship was also not statistically significant, $t(63) = -1.45, p = .15$. The fifth *t*-test examined whether child age group would be associated with parents' endorsement of parental facilitation of children's peer relationships. This *t*-test was also not statistically significant, $t(63) = .85, p = .40$.

Hypothesis 4b results. It was hypothesized that girls would have fewer peer-related problems and more prosocial behavior than boys. Gender differences in parents' proximal factors were also explored.

The first *t*-test evaluated whether there were gender differences in children's peer problems. This *t*-test was not statistically significant, $t(62) = -.33, p = .74$. The second *t*-test evaluated whether there were gender differences in children's prosocial behaviors. This *t*-test was statistically significant, such that boys ($M = 1.23$) had higher prosocial

scores than girls ($M = 1.16$), $t(62) = 2.05$, $p = .05$. The third t -test evaluated gender differences in parents' strategies for managing and facilitating their children's peer relationships. This t -test was not statistically significant, $t(62) = .58$, $p = .57$. The fourth t -test evaluated whether child gender was associated with parents' knowledge of their children's playmates and close friendships. This t -test, too, was not statistically significant ($t(62) = 1.18$, $p = .24$). The fifth t -test examined gender differences in parents' endorsement of parental facilitation of children's peer relationships. This t -test was also not statistically significant, $t(62) = .85$, $p = .40$.

Hypothesis 4c results. It was hypothesized that the three child temperament dimensions (i.e., surgency, negative affect, and effortful control) would be associated with children's peer problems and prosocial behavior, as well as parents' knowledge of their children's playmates and close friendships. Specifically, it was expected that children with greater negative affect would have less positive peer relationships and lower parental knowledge of play mates and close friends. Children low in surgency would have less positive peer relationships because they may be more withdrawn. In contrast, children with greater effortful control would have more positive peer relationships.

The first regression tested whether the three temperament predictors were associated with children's peer problems. The three temperament measures statistically significantly predicted children's peer problems, $R^2 = .15$, $F(3,61) = 3.52$, $p = .02$. The statistically significant individual predictor contributing to this increased in explained variance was surgency, which was negatively related to children's peer problems. (See Table 23).

The second regression tested whether the three temperament dimensions predicted children's prosocial behaviors. The three temperament measures were statistically significant predictors, $R^2 = .16$, $F(3,61) = 3.75$, $p = .02$. Children's effortful control emerged as the sole significant individual predictor, which was positively related to their prosocial scores. (See Table 24).

Hypothesis 4d results. It was hypothesized that parents of children lower in surgency and effortful control and higher in negative affect would have more strategies to manage and facilitate their children's peer relationships and they would report greater knowledge of playmates and close friends. This hypothesis was tested using hierarchical regression controlling for social desirability. These hypotheses were evaluated using hierarchical regression. Social desirability was controlled for only in the regressions predicting parents' strategies utilized to manage and facilitate children's peer relationships and parents' knowledge of children's play mates and close friends. It was also hypothesized that parents of children higher in negative affect and lower in surgency and effortful control would report greater endorsement of parental involvement in children's peer relationships.

The first regression tested the CBQ-VSF child temperament dimensions as predictors of parents' strategies for managing and facilitating children's peer relationships. Social desirability was a significant predictor in the first step, $R^2 = .16$, $F(1,62) = 11.75$, $p = .001$. When the three child temperament variables were added to the model in Step 2, the model explained significantly more variance than in Step 1, R^2 change = .20, $F(4,59) = 6.22$, $p = .01$. Effortful control was the sole individual predictor accounting for a statistically significant amount of the variance. (See Table 25).

Children's effortful control was positively related to parents' strategies in managing and facilitating their children's peer relationships.

The second regression evaluated whether the three temperament dimensions predicted parents' knowledge of children's play dates and close friendships. Social desirability was a significant predictor in the first step, $R^2 = .10$, $F(1,62) = 6.89$, $p = .01$. In the second step, the model remained statistically significant, $R^2 = .15$, $F(4,59) = 2.61$, $p = .04$. However, the addition of the three temperament predictors did not significantly increase the amount of variance explained, R^2 change = .05, $F(4,59) = 2.61$, $p = .33$.

The third regression tested whether the three temperament dimensions were predictors of parents' endorsement of parental facilitation of children's peer relationships. Social desirability was not evaluated as a covariate. The regression model was statistically significant, $R^2 = .17$, $F(3,61) = 4.08$, $p = .01$. Effortful control was the only significant individual temperament predictor. (See Table 26). The parental endorsement variable was reflected before transformation so the negative beta indicates a positive relationship. Children's effortful control is positively related to parents' endorsement of parental facilitation of children's peer relationships.

Hypothesis 4e results. The next set of analyses evaluated whether children's characteristics (age, gender, and temperament) were associated with parenting stress. Associations for child age and gender were evaluated using t-tests, and associations for child temperament were evaluated using hierarchical regression, controlling for social desirability.

Results of the first t-test examining effects of child age on total parenting stress were not significant, $t(63) = -.61, p = .54$. Results of the second t-test evaluating effects of child gender on total parenting stress also were not significant, $t(62) = .59, p = .56$.

A regression analysis was then conducted to examine the relationship between the three temperament measures and total parenting stress, controlling for social desirability. Social desirability was not a significant predictor in the first step, $R^2 = .04, F(1,62) = 3.54, p = .06$. When the three temperament measures were added to the model in Step 2, the model became statistically significant; $R^2 \text{ change} = .34, F(3,59) = 11.04, p < .001$. Surgency, negative affect, and effortful control were each significant individual predictors of total parenting stress. (See Table 27). Notably, social desirability also became a significant predictor in Step 2. Child surgency and effortful control were each negatively related to total parenting stress, and child negative affect was positively related to total parenting stress.

The next set of analyses examined the associations between these child characteristics (child age, gender, and temperament) the three dimensions of parenting stress dimensions. Age and gender effects were evaluated using t-tests, whereas temperament dimensions were evaluated using hierarchical regression, adjusting for social desirability.

None of the t-tests evaluating age effects on the three dimensions of parenting stress were significant: Parent distress, $t(63) = -.39, p = .70$; Parent-child dysfunctional interaction, $t(63) = -.50, p = .62$; and Difficult child, $t(63) = -.67, p = .50$.

Similarly, none of the t-tests evaluating gender effects on the three dimensions of parenting stress were significant: Parent distress, $t(62) = .96, p = .34$; Parent-child dysfunctional interaction, $t(62) = 1.30, p = .20$; Difficult child, $t(62) = -.70, p = .48$.

A different pattern of results was observed in the regressions evaluating the association between the three dimensions of parenting stress and child temperament. The first regression examined the association between the three temperament dimensions and PSI-SF parental distress. Social desirability was a significant predictor, $R^2 = .13, F(1,62) = 9.07, p = .004$. When the three temperament measures were added in Step 2, their addition significantly increased the amount of variance explained, R^2 change = .14, $F(3,59) = 3.83, p = .01$. Social desirability and child negative affect were each statistically significant individual predictors of parent distress. (See Table 28). Social desirability was negatively related to parental distress. Children's negative affect was positively related to parental distress.

The second regression analyzed the association between the three temperament measures and PSI-SF parent-child dysfunctional interaction. Social desirability was not significantly related to the dependent variable and therefore not evaluated as a covariate. The three temperament measures were statistically significant predictors, $R^2 = .35, F(3,61) = 11.12, p < .001$. Each of the three temperament predictors made a statistically significant contribution. (See Table 29). Children's surgency and effortful control were each negatively related to parent-child dysfunctional interaction, and children's negative affect was positively related to parent-child dysfunctional interaction.

The third regression analysis examined the relationship between the three child temperament dimensions and PSI-SF difficult child-related parenting stress. Social

desirability was also not evaluated as a covariate in this analysis. The three temperament measures were statistically significant predictors, $R^2 = .38$, $F(3,61) = 12.54$, $p < .001$. Child negative affect was the only significant individual predictor in Step 2. As children's negative affect increased, difficult child scores also increased. These results are shown in Table 30.

Hypothesis 4f: It was expected that parents' personality characteristics would be significantly associated with child temperament. Specifically, it was expected that parents' extraversion, agreeableness, and openness to experience would be positively associated with children's surgency; parents' conscientiousness would be positively associated with children's effortful control, and parents' neuroticism would be positively related to children's negative affect. These associations were evaluated using hierarchical regression. Social desirability was unrelated to the three temperament measures and accordingly was not evaluated as a covariate.

The first regression evaluated whether the five parental personality dimensions would be associated with children's surgency. The five parental personality dimensions were statistically non-significant predictors of children's surgency, $R^2 = .15$, $F(5,59) = 2.12$, $p = .08$.

The second regression examined whether the five parental personality measures were associated with children's negative affect. The five parental personality measures statistically significantly predicted children's negative affect, $R^2 = .22$, $F(5,59) = 3.39$, $p = .01$. However, none of the personality dimensions were significant individual predictors. (See Table 31).

The third regression evaluated whether the five parental personality dimensions were associated with children's effortful control. The five parent personality measures were statistically significant predictors, $R^2 = .26$, $F(5,59) = 4.10$, $p = .003$. Parental agreeableness and openness to experience were the only statistically significant individual predictors of child effortful control. (See Table 32). Both parent personality variables were positively related to children's effortful control.

CHAPTER 4 DISCUSSION

The main goal of this study was to investigate the proximal and distal effects that parents may have on their children's peer relationships. Specifically, this study investigated how parents directly influence their children's peer relationships through their strategies used to manage and facilitate their children's peer relationships, their endorsement of parents using such strategies in general, and their knowledge of their children's playmates and close friends. It also examined how parents indirectly influence their children's peer relationships, through their parenting stress, social support network, and their personality characteristics.

An additional goal of this study was to examine how children affect their own peer relationships, by examining the effects of their gender, age, and temperament. Children's effects on their parents' management and facilitation of children's peer relationships and knowledge of children's playmates and close friends were also explored. Child effects on parents' parenting stress and the effects of parent's personality on children's temperament were also evaluated.

Social desirability was significantly correlated with the parents' management of children's peer relationships scale and the parents' knowledge of children's play dates and close friendships scale. Social desirability was also related to less parent-reported parenting distress. These findings suggest that parents are more likely to present themselves in a favorable way when they report higher levels of assistance and guidance to their children's peer relationships, and less distress in their parenting.

Aim 1

The first aim of this study was to evaluate the effects of parents' proximal factors on children's peer relationships. The results did not support the hypotheses for aim 1 that the parents' strategies used to manage and facilitate their children's peer relationships, their knowledge of children's play mates and close friends, and their endorsement of parental facilitation of children's peer relationships would each relate to children's decreased peer problems and increased prosocial behaviors. Parents' self-reported strategies for managing and supporting their children's peer relationships were not significantly related to their children's peer problems or prosocial behavior. Their endorsement of parents facilitating their children's peer relationships was also not related to the two measures of children's peer relationships. Parents' knowledge of their children's playmates and close friends was negatively related to their children's peer problems, but unrelated to their children's prosocial behaviors. Parental education approached significance in its relationship to children's peer problems and was tested as a covariate in the analyses. It was not significantly related to children's peer problems in any of the regression models, however.

The lack of empirical support for the relationship between parents' management and facilitation of their children's peer relationships and the children's peer problems and prosocial behaviors is surprising. This finding does not match those reported by others in the literature. However, in extant studies investigators assessed actual parenting behaviors, and did not use parents' self-report, which may have caused the difference in results. For instance, Bhavnagri and Parke (1991) directly observed parental supervision and compared that to children's interactions with peers. Finney and Russell (1988) also observed the differences in parental instruction and supervision in

children of high social status and low social status. Ladd and Golter (1988), however, interviewed parents about their supervision and facilitation of children's peer relationships. They found significant parental effects on children's social competence. Our results do not corroborate these findings. One reason could be the relatively low reliability of the scale utilized to assess parents' strategies used to manage and facilitate children's peer relationships. This is further discussed in the limitations section below.

The finding that parents' knowledge of playmates and close friends is negatively related to children's peer problems is not surprising and is consistent with previous literature. For instance, friendship exclusivity is associated with increased relational aggression and decreased peer acceptance and fewer close friendships (Seban, 2003). In the present study, the peer problems scale taps into isolated play and peer victimization (Goodman, 1997), which is indicative of lower peer acceptance and fewer friendships.

The finding that parents' endorsement of parental facilitation of children's peer relationships is unrelated to children's peer problems and children's prosocial behaviors is surprising. Mize and colleagues (1995) report that parents who perceive their children as less socially competent are more likely to intervene and are more likely to perceive their intervention as effective. In turn, parents who perceive their own interventions in their children's peer relationships as effective are more likely to endorse parental interventions in general. This study's results contrast these findings and provide no empirical support to the hypothesis that parents' perceptions of their own children's peer problems influence their facilitation of children's peer relationships in general.

Aim 2

The second aim tested whether parental distal factors (i.e., parenting stress, social support network, and personality) are related to children's peer problems and prosocial behaviors. The results provided partial support to these hypotheses.

Hypothesis 2a. Regression results show that overall parenting stress is linked to greater peer problems and lower prosocial scores, supporting hypothesis 2a. The individual parenting stress subscales, however, do not significantly relate to children's peer problems or prosocial behaviors. Also the total parenting stress score is not significantly related to children's play dates and close friendship scores. Interestingly, the parental distress subscale is negatively related.

The findings regarding the effects of parenting stress overall on children's peer problems and prosocial behaviors are in line with previous research on the relationships between parenting stress and children's externalizing behaviors and theory of mind. For instance, studies consistently show a positive relationship between parenting stress and children's externalizing behaviors (Coplan *et al.*, 2003; Creasy & Jarvis, 1994; Crnic *et al.*, 2005; Neece *et al.*, 2013). Others show that parenting stress is associated with children's lower social competence (Anthony *et al.*, 2005) and lower theory of mind skill (Guajardo *et al.*, 2009), which in turn is associated with lower prosocial behaviors (Walker, 2005). The current finding that overall parenting stress is associated with decreased prosocial behaviors is consistent with the latter research finding.

The association of the parenting distress subscale's relationship with parents' knowledge of children's playmates and close friends also aligns with this literature. Surprisingly, none of the individual parenting stress subscales were related to the children's peer problems and prosocial behaviors. Multicollinearity was not an issue and

did not contribute to the lack of findings. Notably, Anthony and colleagues (2005) only included the PSI-SF total score in their analyses, though they described all of the subscales in their materials section.

Hypothesis 2b. The results partially supported hypothesis 2b, which posited that the HMT social network size variables, along with the ratio of close relationships to the entire network, and the perceived social support would each negatively relate to children's peer problems and positively relate to their prosocial behaviors. When the ratio of social network closeness and the total perceived social support score were the predictors, total perceived social support was significantly associated with children's increased prosocial behaviors, which supports the literature. However, the total number of people listed in the inner circle, middle circle, or outer circle was not related to children's peer outcomes, which is somewhat inconsistent with the literature. The ratio of close relationships to the entire social support network was also not significantly related to children's peer problems and prosocial behavior. Similarly, when the total social support score was entered in the same step as the size of the network variables it was not significantly related to child outcomes.

Previous research did find that parents' number of friendships related to their children's number of friendships (Homel *et al.* , 1987; Uhlenborff, 2000). The HMT social support network was not related to the child outcomes, or parents' knowledge of playmates or close friends, which will be discussed further below. However, the social network map was not further broken down into only friendships, so the measure as used in analyses contained many types of relationships, including friends, family, and acquaintances. The total perceived social support score was only associated with

children's prosocial behaviors, which may suggest that perceived social support is more impactful than actual numbers of people in the social network. On the other hand, parental perceived social support was not negatively associated with children's peer problems, which is somewhat surprising.

As previously mentioned, the MSPSS perceived social support subscales had issues with multicollinearity and subsequently were not used in analyses. However, the initial correlations revealed a positive association between the perceived social support from friendships and children's prosocial behaviors. The correlation between parents' perceived social support from friends and children's peer problems was not significant. Perhaps, this subscale alone would have been associated with children's peer relationships. Further research needs to examine the specific sources of parents' social support and children's peer relationships.

Hypothesis 2c. This hypothesis that parents' extraversion, agreeableness, and openness to experience, and neuroticism would each uniquely associate with children's peer problems and prosocial behaviors was partially supported. Results show that parents' personality is associated with children's peer outcomes, but not in the global way as predicted.

Consistent with expectations, parents who were more agreeable had children with fewer peer problems. In other research, parents' agreeableness is associated with greater parental warmth and greater allowance of autonomy (Prinz et al., 2009), which may be because children are more likely to learn warmth from their parents and apply this quality to their peer relationships. Perhaps these children were more agreeable too or simply less likely to fight or argue with peers.

In the present study parents' extraversion is positively related to children's prosocial behaviors, an index of social skills. In other research, parental extraversion is associated with parental warmth (Prinz et al., 2009), and parents who exhibit more warmth in child interactions may teach their children to be warmer in their peer relations. Parental extraversion is also associated with greater nurturance of children (Metsäpelto & Pulkkinen, 2005).

An unexpected finding in the current study is that neither parents' conscientiousness nor neuroticism is associated with children's peer outcomes. In the broader literature, conscientiousness is related to parental warmth and responsiveness (Clark *et al.*, 2000; Kochanska *et al.*, 2004) and neuroticism is associated with less parental warmth (Kochanska *et al.*, 2004; Prinz et al., 2009). This study failed to replicate these relationships.

Aim 3

The third aim was to examine associations between parental distal factors (parenting stress, social support network, and personality) and parental proximal factors (parents' strategies used to manage and facilitate children's peer relationships, their knowledge of children's playmates and close friends, and their endorsement of parents using these strategies in general). Each of the parental distal factors inspired separate hypotheses which are discussed below. Because parental age is significantly related to parents' endorsement of parental facilitation of children's peer relationships it was included as a covariate in the analyses. Results partially supported the third aim as detailed below.

Hypothesis 3a. The hypothesis that parenting stress would be negatively associated with parents' proximal factors was generally supported. The total parenting stress score was associated with less parental management of children's peer relationships and parents' overall endorsement of managing and facilitating children's peer relationships. However, none of the individual PSI subscales were significantly related to parents' managing of children's peer relationships or their endorsing of its importance.

The negative relationship between parenting stress and parents' management of their children's peer relationships, as well as its general endorsement, matches similar findings in the literature. Parenting stress is associated with less warmth and responsiveness in parenting Deater-Deckard, 1998; Crnic *et al.*, 2005; Crnic *et al.*, 1983, as well as more strictness in parenting (Deater-Deckard & Scarr, 1996). This suggests that parents who are less warm and responsive with their children are likely to use fewer strategies to manage and facilitate their children's peer relationships. Parenting stress may take psychological resources away from parents and reduce their capacity or willingness to supervise and intervene in their children's peer relationships, perhaps through increased fatigue and decreased attentiveness. Parenting stress is also associated with parental laxness (Guajardo et al. 2009).

Hypothesis 3b. It was anticipated that the HMT social support network and overall perceived social support variables would positively relate to parents' proximal factors. Hypothesis 3b was partially supported by the results. The total amount of perceived support is significantly related to parents' management of their children's peer relationships and parents' knowledge of children's playmates and close friends, but not

their endorsement. However, it was only significant in the models with the ratio of social network closeness. Moreover, the number of people in the inner, middle, and outer circles was not related to parents' management of children's peer relationships or their endorsement of managing children's peer relationships. The ratio of close relationships to the total social network size was also not related to parents' strategies used to manage and facilitate children's peer relationships, their knowledge of children's playmates and close friends, and their endorsement of parental strategies used to facilitate children's peer relationships.

The association of total perceived social support with parents' management of children suggests that having people to rely on in general may positively influence parents' tendency or willingness to intervene in their children's peer relationships. People who have higher amounts of social support are also more likely to endorse parental strategies to facilitate children's peer relationships. Feeling supported may make it more likely that parents will support their children's social skills. In contrast, having a larger social support network may not be sufficient.

As mentioned earlier, the HMT social network size in this analyses is not an accurate measure of number of friendships because the social network consists of all important relationships. Perhaps a direct measure of the number of friendships would have been significantly related to the proximal parental measures. This problem may help explain why the ratio of closeness variable was also not a significant predictor in the regression models.

Taken together, these results also suggest that perceived social support is more impactful than actual social network size. Other research has found that perceived social support is more beneficial than received social support (Pepin & Banyard, 2006).

Hypothesis 3c. Parents' five personality dimensions were expected to uniquely relate to their strategies used to manage and facilitate children's peer relationships, their knowledge of children's playmates and close friends, and their endorsement of parental facilitation of children's peer relationships. Hypothesis 3c was partially supported. Parents' agreeableness and openness to experience were both significantly associated with parents' endorsing of managing children's peer relationships. Perhaps, parents who are more agreeable are more likely to manage their children's peer relationships and endorse intervening in children's relationships because they are more likely to help their children resolve conflicts, or are more responsive to their children. Other studies show that agreeableness and openness to experience are each associated with more supportive parenting and greater structure and control in parenting (Prinz et al., 2009). Such support and structure may lead to the utilization of more strategies to improve children's peer relationships and greater endorsement of using such strategies.

Surprisingly conscientiousness was not related to parents' management of their children's peer relationships in the current study. In other research, conscientiousness is linked to greater maternal responsiveness, parenting knowledge, and learning-centered orientation with children (Bornstein et al., 2011; Clark et al. 2000; Kochanska et al., 2004). Conscientiousness may not be associated with parents' self-reported strategies used to improve their children's peer relationships, but it may affect the actual strategies parents use, as assessed under conditions of observation. In many of the studies on

parent personality described previously, the parenting behaviors were assessed with direct observation, rather than self-report.

Aim 4

The fourth aim examined the effects children have on their own peer relationships and on their parents proximal factors. Additionally, children's effects on their parents' parenting stress and the effects of parents' personality on children's temperament were investigated. Results provide partial support for the Aim 4 hypotheses.

Hypothesis 4a. It was expected that parents of younger children would report that their children had more peer problems and less prosocial behavior than parents of older children. This hypothesis was not supported. There were no differences between younger children, 3- to 4-years old, and older children, 5- to 6-years old, in parent reports for the quality of children's peer relationships.

The lack of findings is inconsistent with previous literature. Ramsau (1995) reports that children's peer relationships stabilize across early childhood and as they grow older, children increase their number of close friends. Walker (2005) shows that older preschool-aged children have more prosocial behaviors than younger preschool-aged children.

The hypothesis that parents of younger children would use more strategies to manage and facilitate their children's peer relationships and report greater endorsement of using these strategies than parents of older children was partially supported. As predicted, parents of younger children used more strategies to manage and facilitate children's peer relationships than parents of older children. This finding is consistent

with that of Bhavnagri and Parke (1991), who show that younger children are more likely to receive direct parental supervision than older children. Younger children may have received more management of their peer relationships from parents than older children because they need more help setting up play dates and are more likely to lack social skills to maintain positive peer relationships.

The lack of a difference between age groups in parents' knowledge of playmates and close friends is surprising because previous research shows that older preschool children have more close friends and greater reciprocated peer-liking than younger children (Ramsey, 1995; Quinn & Hennesy, 2010). The lack of a difference in parents' endorsement of supervision is less surprising because parents of younger preschool aged children may not think that all preschool aged children need more supervision, regardless of age.

Hypothesis 4b. It was anticipated that female children would have fewer peer problems and more prosocial behavior than male children. This hypothesis was not supported. In fact, the findings were the opposite of this hypothesis. In the present study, parents reported that their male children had more prosocial behavior than their female children. However, there were no gender differences for peer problems.

The finding that parents rated their male children as more prosocial is surprising because most research has found the opposite. For example, Walker (2005) reports that girls have more advanced theory of mind than boys, which is related to greater social skills with peers, including prosocial behavior. Notably, Walker (2004) found no differences in prosocial behaviors by child gender. However, Sebanc (2003) found that girls were more prosocial than boys. This difference may reflect measurement

differences across studies. Both Walker's and Sebanc's findings contrast with the current study's result. Walker and Sebanc both used teacher-report measures of prosocial behavior, whereas the current study used parents' self-report measures. Walker also found that boys and girls did not differ in their peer group entry. On the other hand, Sebanc found that overall friendship features were similar for boys and girls which matches the overall results of the present study. Many of the gender differences reported in the literature focus on specific behaviors of children, such as relational aggression, overt aggression, and prosocial behaviors.

There also were not any significant gender differences for the proximal parental factors (i.e., parents' management of children's peer relationships, parents' knowledge of playmates and close friendships, or parental endorsement of parental facilitation of children's peer relationships). This lack of significant findings is partially consistent with the literature. Finney and Russel (1988) also report no significant effects of child gender on mothers' managing and facilitating of their children's peer relationships or parents' knowledge of child peer relationships.

Hypothesis 4c. The hypothesis that children's temperament dimensions would uniquely associate with children's peer problems and peer relationships was partially supported. Children's surgency was negatively related to their peer problems. This association is not surprising because children with greater surgency exhibit more positive affect and approach behaviors so it is plausible that they would be more likely to seek out and be sought out by friends and have fewer peer problems. However, Berdan, Keane, and Calkins (2008) found that children high in surgency/extroversion

along with a strong tendency to approach were more likely to exhibit aggressive and acting out behaviors, which is not consistent with the present finding.

In the current study children's effortful control was positively related to their prosocial behaviors. This finding is not surprising because children with higher effortful control are better able to regulate their behaviors and emotions, which would help children to act more prosocially. Such children also have greater theory of mind and empathy which are linked to prosocial behaviors. For instance, Carlson and colleagues report that children's inhibitory control is associated with better performance on false-belief tasks, even after controlling for intelligence and working memory (Carlson, Moses, & Breton, 2002).

Hypothesis 4d. Parents of children lower in surgency, higher in negative affect, and lower in effortful control were predicted to report using more strategies to manage and facilitate their children's peer relationships and report greater endorsement of parental use of such strategies. These hypotheses were generally supported.

Children's effortful control was associated with more parental management of children's peer relationships and greater endorsement of that management in general. This finding is not surprising because children's effortful control is associated with greater capacity to self-regulate their negative affect and increased social competence in intense peer interactions (Fabes *et al.*, 1999). In turn, lower effortful control is associated with increased aggression, which leads to peer victimization (Gunnar *et al* 2003).

Children's effortful control was also positively related to their parents' greater involvement and intervention in their children's peer relationships. The latter finding may

stem from the possibility that parents viewed their intervention efforts as more effective. Others report that parents of children with higher effortful control are more responsive, less controlling, and more socially engaged with their children (Wilson & Durbin, 2012). Parents of children higher in effortful control may therefore be more likely to believe that their efforts to manage and facilitate their children's peer relationships may be more effective. In the present study, children's effortful control was the only significant temperament factor associated with endorsement of parental facilitation of children's peer relationships.

Surprisingly, children's negative affect was not correlated with parental proximal factors. This null finding is inconsistent with the broader literature, which generally shows that poor emotion regulation is associated with poor peer relationships (Eisenberg *et al.*, 1993; Eisenberg *et al.*, 1995; Eisenberg *et al.*, 1997) and that negative affect is associated with lower social competence (Coplan *et al.* 2003). Theoretically, children with higher negative affect would need greater parental management and facilitation in their peer relationships. However, parents of children with greater negative affect in this sample did not report using more strategies to help their children's peer relationships. Perhaps, this null finding reflects a belief that parental efforts to intervene are less effective when children are higher in negative temperament. Parents of such children may also be less likely to place their children social situations, perhaps because they fear they will be perceived as a bad parent.

Hypothesis 4e. It was expected that children's characteristics (age, gender, temperament) would associate with parenting stress. Specifically, parents of younger children would report more parenting stress than parents of older children, and parents

of male children were expected to report more parenting stress than parents of female children. Moreover, it was expected that parents of children lower in surgency and effortful control and higher in negative affect would report more parenting stress.

These hypotheses for age and gender were not supported. No significant child age or child gender differences were found for any of the parenting stress measures.

However, child temperament was significantly associated with parenting stress. Higher surgency and effortful control were associated with less total parenting stress and higher negative affect was associated with more total parenting stress. Negative affect was also positively related to the three parenting stress subscales: parental distress, parent-child dysfunctional interaction, and difficult child. Children's surgency and effortful control were related to decreased parent-child dysfunctional interaction but these two temperament dimensions were not related to difficult child stress.

Not surprisingly, children's temperament was related to overall parenting stress in the way predicted. Children who show more positive affect and are better at regulating their emotions are associated with less parenting stress and children who express more intense and frequent negative emotions are associated with greater parenting stress. Children's lower emotional intensity is associated with less parenting stress (McBride, Schoppe, & Rane, 2002). Similarly, children's negative affect is associated with greater parental distress, more dysfunctional interactions with parents, and difficult. Parents who perceive their child as exhibiting more negative affect, e.g. crying and fussing, are more likely to experience and have a more difficult time interacting with their child. Children's difficult temperament is often linked to greater maternal parenting stress (e.g. Scheinkopf *et al.*, 2006). Children's externalizing behaviors, which are characterized by

low effortful control and high negative affect, also predict later parenting stress (Neece et al. 2013; Williford et al., 2007).

Hypothesis 4f. Parents' personality characteristics were expected to be associated with children's temperament characteristics. Specifically, parents' extraversion, agreeableness, and openness to experience were expected to relate to higher child surgency. Parents' conscientiousness was expected to relate to higher child effortful control, whereas parents' neuroticism was expected to relate to higher child negative affect.

Results provide partial support for this hypothesis. Contrary to expectations, parents' personality factors were not significantly related to their children's surgency, but parents' neuroticism was related to greater child negative affect and parental agreeableness and openness were related to their greater child effortful control.

These findings are largely consistent with the previous literature. Parents' neuroticism is linked to less positive parenting and interactions with children, which may lead to children's greater crying and fussing. Children's negative affect, in turn, is associated with parents' inconsistent discipline strategies and less warm parenting (Leguna & Kovacs, 2005). Parents who are high in neuroticism may also be more likely to perceive their children as crying and fussing more often, and therefore rate their negative affect higher.

Consistent with the present findings, the previous literature also shows that parents who are more agreeable and/or open to new experiences rate their children as exhibiting greater effortful control. Kochanska and colleagues report that parents' agreeableness and openness to experience are associated with more positive

parenting, but only when children have an easy temperament (Kochanska, Kim, & Nordling, 2012). Children with higher effortful control may be easier to parent because they are better able to self-regulate negative emotions (Fabes et al., 1999) and delay gratification.

Parents' agreeableness and openness to experience may also directly influence their children's effortful control. Parents' agreeableness is related to their greater autonomy support, which may lead to increased children's effortful control or, maybe because of children's effortful control. More agreeable parents may give their children more freedom and more opportunities to exercise their effortful control, but children who exhibit greater control over their emotions and behaviors may be granted greater freedom by their parents.

To summarize, this study evaluated associations between the parent-child microsystem and the child's peer microsystem. Results show that parents' proximal were generally not associated with the quality of their children's peer relationships in this study, but these factors were significantly associated with parents' reports of parenting stress, perceived social support, and personality. These parental characteristics were significantly related to parents' involvement in their children's peer relationships, although not as globally as predicted. Many of the parents' characteristics were related to their children's characteristics and they each impacted children's peer relationships in separate analyses. Overall, the findings of this study do support the hypothesis that the family context is associated with quality of children's peer microsystem.

Limitations

This study has several limitations that should be acknowledged. The greatest limitation is the sole reliance of parents' self-report data for all measures, resulting in shared method variance that could have biased results. A related issue is that parents' own characteristics likely influence their perceptions of their child, and thus measures derived from parental self-reports are likely to be correlated. For example, greater parenting stress may negatively bias parents' perceptions of their children's peer relationships and temperament. That is parents with greater stress may be more likely to perceive their children as more irritable and less self-controlled, compared to parents with less stress. Parents' personalities are also likely to influence their perceptions of their children's peer relationships and temperaments. Parents who are more neurotic may perceive their child in a more negative light (e. g., as having greater negative affect). Parents who are more agreeable may see their children as being "easy" to parent, i.e., as exhibiting less negative affect and greater effortful control.

Another major limitation of the study is its relatively small sample size, which means that it is underpowered to evaluate complex associations among variables (e.g., mediation, 3-way interactions).. The present sample included only 65 participants who met the study's inclusion criteria: having a child between the ages of 3 and 7 and providing complete data on all of the surveys. To achieve a power of .80, which is considered appropriate for a mediation model, a sample size of 131 would be needed given all of the variables in the analyses. Thus complex mediation and moderation models could not be tested in the current sample. Utilizing a larger sample size with more power may have revealed significant relationships that are actually present, but not currently detected in the present analyses, lowering Type 2 error. For instance, in

the current study, contrary to expectations, the relationships between the parents' proximal factors and the children's peer relationships were generally not significant.

Another limitation is the low reliability of the PPPF scale. The scale was broken into two separate scales by the author for the purposes of the study, which was not done by the creators of the scale. Yu and colleagues only provided descriptive statistics of the total scale, and did not look at internal reliability (Yu et al., 2011). It is possible that the items had low reliability in the original sample, suggesting that the scales may have low reliability overall. In addition, there was no guide for scoring the item, so the scales may not been scored in the present study the way the authors of the scale had originally intended. If so, this may help explain the scale's low reliability in this sample.

Another issue is that most of the previous studies that assessed parents' direct impact on their children's peer relationships used observational measures or interviews. They did not use a self-report survey, as was the case in the present study. Some of PPPF measures used in the current study were related to greater social desirability, which undermines confidence in the findings to some extent. The validity of this scale needs further empirical support.

Future Directions

Future studies should utilize larger samples and multiple measures of preschool children's interactions with peers and child temperament (i.e. measures derived from parent and teacher report, as well as direct observation). Future research should also observe parents' supervision of their children's peer relationships, instead of relying solely on self-reports.

Moreover, investigators in future work should evaluate bidirectional effects between parent and child factors over time and how these dynamic transactions relate to children's peer relationships. It would also be important to tease out children's and parents' unique contributions and shared contributions to children's peer relationships. As mentioned earlier, more research is needed to identify whether parents intervene more when their children lack social skills, or parents' intervention in their children's peer relationships enhances their social skills and under which conditions this occurs. More longitudinal research is needed to address these questions by assessing how children's peer relationships and parents' interventions influence each other across time.

Another avenue for future research is to conduct cross-cultural comparisons of parental influence on children's peer relationships. Currently most of the research reviewed in this article has utilized US samples. Another interesting idea is the possible effects of socioeconomic status on parental intervention. People of lower socioeconomic status generally experience greater stress and may have to work multiple jobs so they may have less time and energy to put into their children's peer relationships. Alternatively, stressed parents may view children's peer relationships as less important than parents with less stress.

Conclusion

This study is one of the first to look at the combined effects of parents' involvement in their preschool children's peer relationships, parental characteristics, and child characteristics, and how these factors influence children's peer relationships. Although parents' self-reports of their direct interventions into their children's peer

relationships are not related to their children's peer relationships in the present study, their parenting stress, social support, and agreeableness are significantly related to their children's social skills. The present study shows that parents' stress, social support, and agreeableness are associated with parents' management and supervision of children's peer relationships, and that parents were more likely to intervene for younger children than older children. Current results also suggest that different children's temperament characteristics are associated with their peer relationships and that gender is linked to children's prosocial behavior. Notably, there was more support overall for associations between parents' and children's characteristics and children's peer relationships than for direct parental management, supervision, and facilitation of peer relationships.

APPENDIX A STUDY QUESTIONNAIRES

DEMOGRAPHICS

About Me

Q1

What is your highest level of **EDUCATION**? (select one)

No GED / No High School Diploma	GED / High School Diploma	Some
	College	
2-year College Degree	4-year College Degree	Masters Degree Doctorate

Q2

a) Which best describes you? Are you....

Single Married/Partnered Divorced Widowed

(if applicable) Living together? Yes No

Is your partner the baby's biological father? Yes No

b) How many adults and/or children are currently living in your household?

Adults_____ Children_____

c) How many rooms are in your house or apartment?

Please answer the following questions about **YOUR BABY'S BIOLOGICAL FATHER**...

.... **EDUCATION?**

No GED / No High School Diploma	GED / High School Diploma	Some College
	2-year College Degree	4-year College Degree
		Masters Degree Doctorate

What is his highest grade completed? _____

Q3 **DURING THE LAST 12 MONTHS**, what was your **MAIN** occupation? Please answer for you (left column) and for your **BABY'S BIOLOGICAL FATHER**(right column)... (check only those which apply)

	a) You	b) Your baby's biological father
Working full-time?	<input type="radio"/>	<input type="radio"/>
Working part-time?	<input type="radio"/>	<input type="radio"/>
Looking for a job?	<input type="radio"/>	<input type="radio"/>
Studying?	<input type="radio"/>	<input type="radio"/>
A homemaker?	<input type="radio"/>	<input type="radio"/>
Retired?	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>
Please specify :	_____	

II - Finances

Q4 During the **LAST** year, what was the total income of your household from all sources before taxes and other deductions?

- | | | |
|---|---|--|
| <input type="radio"/> Less than \$ 5 000 | <input type="radio"/> \$ 50 000 to \$55 000 | <input type="radio"/> \$ 100 000 to \$ 120 000 |
| <input type="radio"/> \$ 5 000 to \$ 10 000 000 | <input type="radio"/> \$ 55 000 to \$ 60 000 | <input type="radio"/> \$ 120 000 to \$ 140 000 |
| <input type="radio"/> \$ 10 000 to \$ 15 000 | <input type="radio"/> \$ 65 000 to \$70 000 | <input type="radio"/> \$ 140 000 to \$ 160 000 |
| <input type="radio"/> \$ 15 000 to \$ 20 000 | <input type="radio"/> \$ 70 000 to \$80 000 | <input type="radio"/> \$ 160 000 to \$180 000 |
| <input type="radio"/> \$ 20 000 to \$ 25 000 | <input type="radio"/> \$ 80 000 to \$ 90 000 | <input type="radio"/> \$ 180 000 to \$200 000 |
| <input type="radio"/> \$ 25 000 to \$ 30 000 | <input type="radio"/> \$ 90 000 to \$ 100 000 | <input type="radio"/> \$ 200 000 to \$220 000 |
| <input type="radio"/> \$ 35 000 to \$ 40 000 | | <input type="radio"/> \$ 220 000 to \$250 000 |
| <input type="radio"/> \$ 45 000 to \$ 50 000 | | <input type="radio"/> Greater than \$250 000 |

Do you receive public assistance? (examples include: subsidized housing, WIC, food

subsidy, TANF, and which kind(s)? _____

Have you gone back to school since you had the baby? _____

Have you gone back to work since you had the baby?

1. Overall, how satisfied are you with your financial situation?

- | | |
|---|----------------------|
| 1 | Very dissatisfied |
| 2 | Sort of dissatisfied |
| 3 | Mixed Feelings |
| 4 | Sort of satisfied |
| 5 | Very satisfied |

2. How often do you worry about financial matters?

- | | |
|---|---------------------|
| 1 | Almost Never |
| 2 | Once in a while |
| 3 | Sometimes |
| 4 | Often |
| 5 | Almost all the time |

3. Do you know how much money you'll have to live on from one month to the next?

- | | |
|---|---------------------|
| 1 | Almost Never |
| 2 | Once in a while |
| 3 | Sometimes |
| 4 | Often |
| 5 | Almost all the time |

Q6 Please answer the following questions with yes or no answers.

1. Since [current month] of last year, has the [gas/electric] company sent [you/primary caregiver/your household] a letter threatening to shut off the [gas/electricity] in the house for not paying bills?
2. In the last 12 months since last [current month], have [you/primary caregiver/your household] ever used a cooking stove to heat the [house/apartment]?
3. Since [current month] of last year, were there any days that your home was not [heated/cooled] because [you/primary caregiver/household] could not pay the bills?
4. Since [current month] of last year, has the [gas/electricity/oil] company [shut off/refused to deliver] the [gas/electricity/oil] for not paying bills?
5. My family and I moved [changed residences] more than once in the last 12 months, since last [current month].
6. Our current living quarters are crowded (more than 2 people per bedroom).
7. Are you temporarily living with other people even for a little while because of economic difficulties? (doubled-up)
8. Within the past 12 months since [current month], we worried about whether our food would run out before we got money to buy more.
9. Within the past 12 months, since [current month], the food we bought just didn't last and we didn't have money to get more.

Q7 The following questions are about your education.

1. What year are you currently in at Wayne State University?
2. What is your declared major of study?
3. What was your Grade Point Average for the previous semester

PPPF

Yu, Ostrosky & Fowler (2011)

Parents Perceptions of Preschoolers' Friendships

This survey was developed to ask about your child's friendships and how you may be involved with them. The first section asks for information about your child. The next section is about who your child plays with. The last part asks how you may be involved in your child's play.

This survey is for mothers who have a child between 3 - 6 years old. If you have more than one child in this age range, please think about your child who is closer to 6 years of age while completing this survey. Thank you so much for your participation!

Part 1: Child information

** Please complete each item.*

1. Child's date of birth: _____/_____/_____

Month Day Year

2. Gender of your child: **Male** **Female**

Part 2: Who *does* your child play with?

A playmate is a child close in age with whom your child plays. A play date is a planned opportunity for two or more children to play together *outside of school*.

** Please check the answer that best applies.*

3. Does your child have playmates? ____ **Yes** ____ **No** (If no, go to question 9.)

4. If yes, how many playmates does your child have?

- ____ 1 to 2
- ____ 3 to 4
- ____ 5 to 6
- ____ 7 to 10
- ____ more than 11

5. How often does your child play with playmates ***outside of child care or school?***

____ more than 4 times per week

- ☐ 3 to 4 times per week
☐ 1 to 2 times per week
☐ less than once per week
☐ less than once per month or less

6. How much time does your child spend with playmates ***outside of child care or school?***

- ☐ more than 10 hours per week
☐ 7 to 10 hours per week
☐ 4 to 6 hours per week
☐ 1 to 3 hours per week
☐ less than one hour per week

7. Please circle all characteristics of your child's playmates that apply.

Y N Boys

Y N Girls

Y N Same age (within a year)

Y N Older by more than one year

Y N Younger by more than one year

Y N Have disabilities

(If yes, describe the type of disabilities the playmate has:
 _____)

8. Where is the most frequent place for your child's play dates?

(Please rank 1- most often, 2- occasionally, 3-least often)

- _____ Your home
 _____ Playmates' homes
 _____ Community sites (e.g., park, McDonalds, playground in a mall)

Close friends are peers whom your child requests to play with *often*. Friendship is defined as a relationship in which children like each other and enjoy doing the same things together.

** Please complete each item.*

9. My child has a close friend. ____ **Yes** ____ **No** (If no, go to question 15.)

10. If you answered # 9 as yes, please describe your child's closest friends (up to 3 friends).

If you answered # 9 as no, skip to item #15.

Gender

Age

_____	_____
_____	_____

11. Please rate the quality of the relationships between your child and his/her close friends by checking the appropriate column. If your child has one close friend, answer the first row only.

	Like each other most of the time	Like each other some of time	Not sure	Tolerate each other
Close friend #1				
Close friend #2				
Close friend #3				

12. Please describe where your child first met his/her close friends by checking the appropriate column.

	Neighborhood	Preschool/ child care	Church	Community program	If other, please describe
Close friend #1					
Close friend #2					
Close friend #3					

13. How long has your child known his/her close friends? Please check the appropriate column.

	Less than 1 year	1 to 2 years	2 to 3 years	3 to 4 years	over 4 years
Close friend #1					
Close friend #2					
Close friend #3					

14. Do any of these close friends have a disability or developmental delay?

If yes, please describe _____)

Part 3: Ways you help your child's social development

** Please check the response that best applies.*

15. What activities has your child attended within the last 6 months? Check all items that apply. (Please include all the opportunities that you planned as well as you those that your child was invited to attend.)

- ___ Play dates
- ___ Birthday parties
- ___ Potlucks with friends or neighbors
- ___ Church-based programs (e.g., Sunday school, summer school...)
- ___ Community programs (e.g., swimming class, summer school, art/gymnastic class....)
- ___ Library activities
- ___ Neighborhood playground
- ___ Others (Describe: _____)

16. Who usually (or most often) invites your child and friends to play?

- ☐ **You** invite more than playmates' parents do
☐ **Playmates' parents** invite more than you do
☐ **You and playmates' parents** invite about the same number of times
☐ Other people who invite your child and friends to play (Describe: _____)
 (e.g., grandparents' or brothers or sisters)

17. Does your child have brothers and sisters? ☐ **Yes** ☐ **No**

If no, skip to item #19.

18. If yes, do you include the brothers and sisters in your child's play?

- ☐ never
☐ rarely
☐ sometimes
☐ often
☐ always

19. Have you ever experienced any difficulty setting up play dates?

- ☐ never (If never, skip to item #21.)
☐ rarely
☐ sometimes
☐ often
☐ always

20. If you checked sometimes, often or always, please describe what kind of difficulties you have experienced.

21. Does your child have informal opportunities to play (e.g., outside in the yard with neighbors)?

- ☐ never
☐ rarely
☐ sometimes
☐ often
☐ always

22. Do you watch your child play with his/her playmates or close friends?

- ☐ never
☐ rarely
☐ sometimes
☐ often
☐ always

23. Do you suggest activities to your child and his/her playmates or organize their play?

- ☐ never
- ☐ rarely
- ☐ sometimes
- ☐ often
- ☐ always

24. Do you help your child and his/her playmates to take turns, share, and help one another?

- ☐ never
- ☐ rarely
- ☐ sometimes
- ☐ often
- ☐ always

25. If your child and a playmate have a disagreement or argument, do you talk to your child and his/her playmate about it?

- ☐ never
- ☐ rarely
- ☐ sometimes
- ☐ often
- ☐ always

26. Do you join in the play (e.g., play games, pretend play...) when your child is playing with his/her playmates or friends?

- ☐ never
- ☐ rarely
- ☐ sometimes
- ☐ often
- ☐ always

27. How often do you discuss feelings like *proud/excited/frustrated* with your child during play dates or in daily life?

- ☐ never
- ☐ rarely
- ☐ sometimes
- ☐ often
- ☐ always

28. Do you need to help other children understand your child's likes and dislikes?

- ☐ never
- ☐ rarely
- ☐ sometimes
- ☐ often
- ☐ always

29. Do you need to help other children understand your child's abilities or needs?

- ☐ never
- ☐ rarely
- ☐ sometimes
- ☐ often
- ☐ always

30. Do you think that parents should teach their children behaviors like initiating play, sharing toys, and solving conflicts?

- ☐ never
- ☐ rarely
- ☐ sometimes
- ☐ often
- ☐ always

31. Do you help your child recognize nonverbal cues from his/her peers, such as facial expressions, body language, and pointing?

- ☐ never
- ☐ rarely
- ☐ sometimes
- ☐ often
- ☐ always

32. Do you have anything else to add about your child's friendships that I didn't think to ask?

Part 4: Family information

** Please select the one that best applies.*

33. Your ethnicity

- ☐ African American
- ☐ Asian/Pacific Islander
- ☐ Caucasian
- ☐ Hispanic
- ☐ Other ()

34. Mothers' age

- ☐ below 20 years old
- ☐ 20-30 years old
- ☐ 31-40 years old
- ☐ 41-50 years old
- ☐ above 50 years old

35. Marital status

- ☐ married (or partnered)
☐ single parent
☐ other ()

36. Mother's educational level

- ☐ less than high school
☐ high school/GED
☐ some college
☐ college degree
☐ some graduate school
☐ graduate degree

37. Mean annual income range

- ☐ below \$25,000
☐ \$25,000- \$50,000
☐ \$51,000-\$75,000
☐ \$76,000 - \$100,000
☐ Above \$101,000

38. Does your child have an identified disability (Does he/she have an IEP)?

_____ Yes _____ No

If yes, please check what services your child has.

Speech & language therapy Physical therapy
 Vision therapy Occupational therapy
 Hearing therapy Special education
 Behavioral support Others ()

PARENTING STRESS INDEX-SHORT FORM

Name _____ Gender _____ Date of birth _____ Ethnic group _____ Marital status _____
 Child's name _____ Child's gender _____ Child's date of birth _____ Today's date _____

SA = Strongly Agree A = Agree NS = Not Sure D = Disagree SD = Strongly Disagree

- | | | | | | |
|---|----|---|----|---|----|
| 1. I often have the feeling that I cannot handle things very well. | SA | A | NS | D | SD |
| 2. I find myself giving up more of my life to meet my children's needs than I ever expected. | SA | A | NS | D | SD |
| 3. I feel trapped by my responsibilities as a parent. | SA | A | NS | D | SD |
| 4. Since having this child, I have been unable to do new and different things. | SA | A | NS | D | SD |
| 5. Since having a child, I feel that I am almost never able to do things that I like to do. | SA | A | NS | D | SD |
| 6. I am unhappy with the last purchase of clothing I made for myself. | SA | A | NS | D | SD |
| 7. There are quite a few things that bother me about my life. | SA | A | NS | D | SD |
| 8. Having a child has caused more problems than I expected in my relationship with my spouse (or male/female friend). | SA | A | NS | D | SD |
| 9. I feel alone and without friends. | SA | A | NS | D | SD |
| 10. When I go to a party, I usually expect not to enjoy myself. | SA | A | NS | D | SD |
| 11. I am not as interested in people as I used to be. | SA | A | NS | D | SD |
| 12. I don't enjoy things as I used to. | SA | A | NS | D | SD |
| | | | | | |
| 13. My child rarely does things for me that make me feel good. | SA | A | NS | D | SD |
| 14. Sometimes I feel my child doesn't like me and doesn't want to be close to me. | SA | A | NS | D | SD |
| 15. My child smiles at me much less than I expected. | SA | A | NS | D | SD |
| 16. When I do things for my child, I get the feeling that my efforts are not appreciated very much. | SA | A | NS | D | SD |
| 17. When playing, my child doesn't often giggle or laugh. | SA | A | NS | D | SD |
| 18. My child doesn't seem to learn as quickly as most children. | SA | A | NS | D | SD |
| 19. My child doesn't seem to smile as much as most children. | SA | A | NS | D | SD |
| 20. My child is not able to do as much as I expected. | SA | A | NS | D | SD |
| 21. It takes a long time and it is very hard for my child to get used to new things. | SA | A | NS | D | SD |

For the next statement, choose your response from the choices "1" to "5" below.

- | | | | | | |
|---|--|----|----|----|----|
| 22. I feel that I am: | 1. | 2. | 3. | 4. | 5. |
| | not very good at being a parent | | | | |
| | a person who has some trouble being a parent | | | | |
| | an average parent | | | | |
| | a better than average parent | | | | |
| | a very good parent | | | | |
| | | | | | |
| 23. I expected to have closer and warmer feelings for my child than I do and this bothers me. | SA | A | NS | D | SD |
| 24. Sometimes my child does things that bother me just to be mean. | SA | A | NS | D | SD |
| | | | | | |
| 25. My child seems to cry or fuss more often than most children. | SA | A | NS | D | SD |
| 26. My child generally wakes up in a bad mood. | SA | A | NS | D | SD |
| 27. I feel that my child is very moody and easily upset. | SA | A | NS | D | SD |
| 28. My child does a few things which bother me a great deal. | SA | A | NS | D | SD |
| 29. My child reacts very strongly when something happens that my child doesn't like. | SA | A | NS | D | SD |
| 30. My child gets upset easily over the smallest thing. | SA | A | NS | D | SD |
| 31. My child's sleeping or eating schedule was much harder to establish than I expected. | SA | A | NS | D | SD |

For the next statement, choose your response from the choices "1" to "5" below.

- | | | | | | |
|--|---------------------------------|----|----|----|----|
| 32. I have found that getting my child to do something or stop doing something is: | 1. | 2. | 3. | 4. | 5. |
| | much harder than I expected | | | | |
| | somewhat harder than I expected | | | | |
| | about as hard as I expected | | | | |
| | somewhat easier than I expected | | | | |
| | much easier than I expected | | | | |

For the next statement, choose your response from the choices "10+" to "1-3."

- | | | | | | |
|---|-----|-----|-----|-----|-----|
| 33. Think carefully and count the number of things which your child does that bother you.
For example: dawdles, refuses to listen, overactive, cries, interrupts, fights, whines, etc. | 10+ | 8-9 | 6-7 | 4-5 | 1-3 |
| 34. There are some things my child does that really bother me a lot. | SA | A | NS | D | SD |
| 35. My child turned out to be more of a problem than I had expected. | SA | A | NS | D | SD |
| 36. My child makes more demands on me than most children. | SA | A | NS | D | SD |

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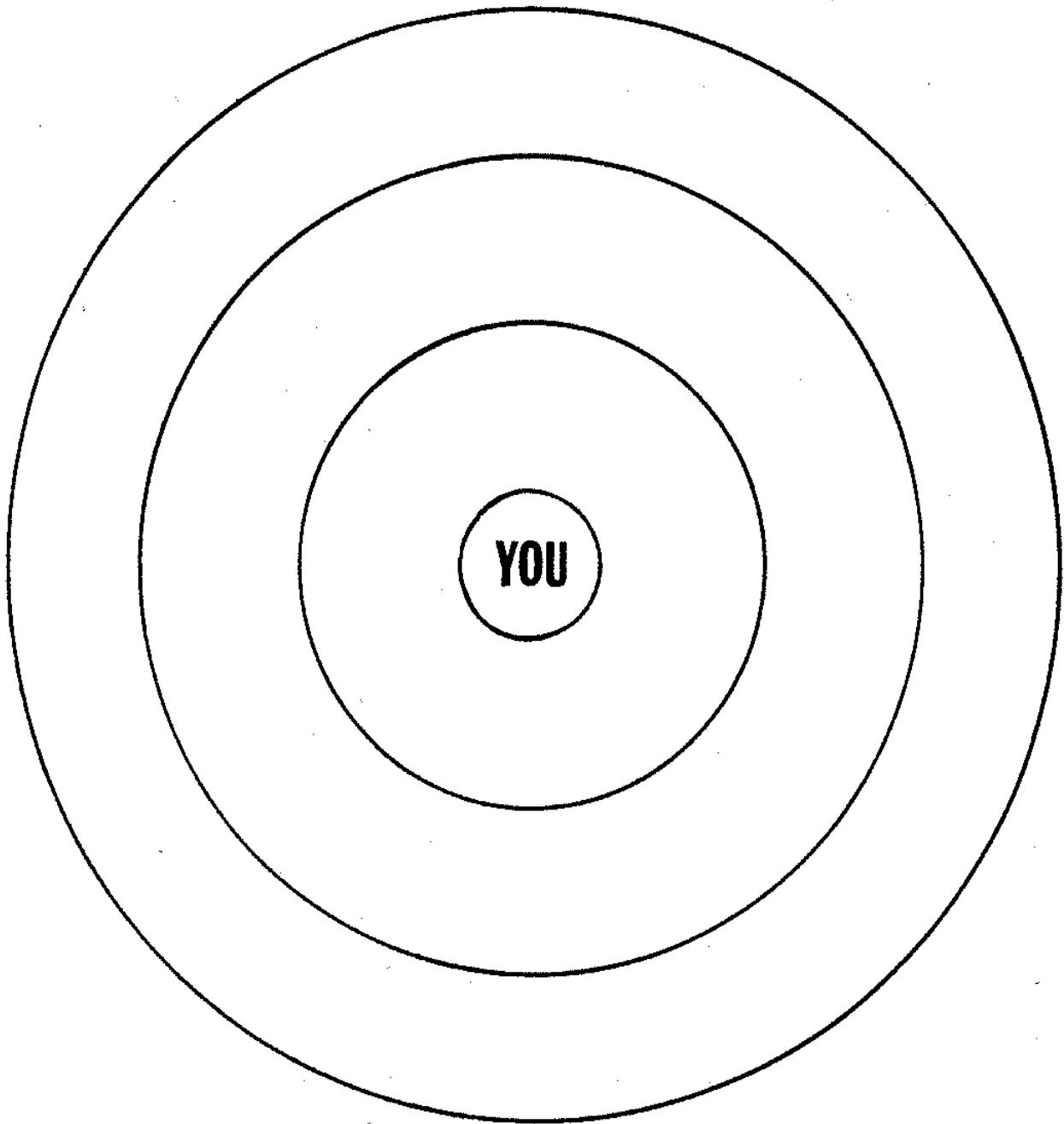
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HIERARCHICAL MAPPING TECHNIQUE

Hierarchical Mapping Technique (Antonucci, 1986)

In the original paper version, there are three concentric circles around the word "You" in a small circle in the middle.

Survey Monkey does not allow the original three-concentric-circle format so text boxes are used instead. The same directions are used for each text box.

For the first text box:

The close relationships in the *Inner Circle* are

"those people to whom you feel so close that is hard to imagine life without them."

For the second text box:

The close relationships in the *Middle Circle* are

"people to whom you may not feel quite that close but who are still important to you."

For the third text box:

The close relationships in the *Outer Circle* are

"people whom you haven't already mentioned but who are close enough and important enough in your life that they should be placed in your personal network."

Participants are instructed to list each person's initials and relationship to the participant.

MULTIDIMENSIONAL SCALE OF PERCEIVED SOCIAL SUPPORT

Perceived Social Support

Please **Select** the response that best describes you.

1. There is a special person who is around when I am in need.

1	2	3	4	5	6	7
very strongly	strongly	disagree	neutral	agree	strongly	very strongly
disagree						agree

2. There is a special person with whom I can share my joys and sorrows.

1	2	3	4	5	6	7
very strongly	strongly	disagree	neutral	agree	strongly	very strongly
disagree						agree

3. My family really tries to help me.

1	2	3	4	5	6	7
very strongly	strongly	disagree	neutral	agree	strongly	very strongly
disagree						agree

4. I get the emotional help and support I need from my family.

1	2	3	4	5	6	7
very strongly	strongly	disagree	neutral	agree	strongly	very strongly
disagree						agree

5. I have a special person who is a real source of comfort to me.

1	2	3	4	5	6	7
very strongly	strongly	disagree	neutral	agree	strongly	very strongly
disagree						agree

6. My friends really try to help me.

1	2	3	4	5	6	7
very strongly	strongly	disagree	neutral	agree	strongly	very strongly
disagree						agree

7. I can count on my friends when things go wrong.

1	2	3	4	5	6	7
very strongly	strongly	disagree	neutral	agree	strongly	very strongly
disagree						agree

8. I can talk about my problems with my family.

1	2	3	4	5	6	7
very strongly	strongly	disagree	neutral	agree	strongly	very strongly
disagree						agree

9. I have friends with whom I can share my joys and sorrows.

1	2	3	4	5	6	7
very strongly	strongly	disagree	neutral	agree	strongly	very strongly
disagree						agree

10. There is a special person in my life who cares about my feelings.

1	2	3	4	5	6	7
very strongly	strongly	disagree	neutral	agree	strongly	very strongly
disagree						agree

11. My family is willing to help me make decisions.

1	2	3	4	5	6	7
very strongly	strongly	disagree	neutral	agree	strongly	very strongly
disagree						agree

12. I can talk about my problems with my friends.

1	2	3	4	5	6	7
very strongly	strongly	disagree	neutral	agree	strongly	very strongly
disagree						agree

BIG FIVE INVENTORY

How I am in general

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who *likes to spend time with others*? Please select a number next to each statement to indicate the extent to which **you agree or disagree with that statement.**

1	2	3	4	5
Disagree Strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly

I am someone who...

- | | |
|--|--|
| 1. _____ Is talkative | 21. _____ Tends to be quiet |
| 2. _____ Tends to find fault with others | 22. _____ Is generally trusting |
| 3. _____ Does a thorough job | 23. _____ Tends to be lazy |
| 4. _____ Is depressed, blue | 24. _____ Is emotionally stable, not easily upset |
| 5. _____ Is original, comes up with new ideas | 25. _____ Is inventive |
| 6. _____ Is reserved | 26. _____ Has an assertive personality |
| 7. _____ Is helpful and unselfish with others | 27. _____ Can be cold and aloof |
| 8. _____ Can be somewhat careless | 28. _____ Perseveres until the task is finished |
| 9. _____ Is relaxed, handles stress well. | 29. _____ Can be moody |
| 10. _____ Is curious about many different things | 30. _____ Values artistic, aesthetic experiences |
| 11. _____ Is full of energy | 31. _____ Is sometimes shy, inhibited |
| 12. _____ Starts quarrels with others | 32. _____ Is considerate and kind to almost everyone |
| 13. _____ Is a reliable worker | 33. _____ Does things efficiently |
| 14. _____ Can be tense | 34. _____ Remains calm in tense situations |
| 15. _____ Is ingenious, a deep thinker | 35. _____ Prefers work that is routine |
| 16. _____ Generates a lot of enthusiasm | 36. _____ Is outgoing, sociable |
| 17. _____ Has a forgiving nature | 37. _____ Is sometimes rude to others |
| 18. _____ Tends to be disorganized | 38. _____ Makes plans and follows through with them |
| 19. _____ Worries a lot | |
| 20. _____ Has an active imagination | |

- 39. _____ Gets nervous easily
- 40. _____ Likes to reflect, play with ideas
- 41. _____ Has few artistic interests
- 42. _____ Likes to cooperate with others
- 43. _____ Is easily distracted
- 44. _____ Is sophisticated in art, music, or literature

CHILD BEHAVIOR QUESTIONNAIRE: VERY-SHORT FORM

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Version 1

Subject No. _____

Date of Child's Birth:

Today's Date _____

Month Day Year

Sex of Child _____

Age of Child _____
Years months

Instructions: Please read carefully before starting:

On the next pages you will see a set of statements that describe children's reactions to a number of situations. We would like you to tell us what your child's reaction is likely to be in those situations. There are of course no "correct" ways of reacting; children differ widely in their reactions, and it is these differences we are trying to learn about. Please read each statement and decide whether it is a "true" or "untrue" description of your child's reaction within the past six months. Use the following scale to indicate how well a statement describes your child:

- | Circle # | If the statement is: |
|----------|--------------------------------------|
| 1 | extremely untrue of your child |
| 2 | quite untrue of your child |
| 3 | slightly untrue of your child |
| 4 | neither true nor false of your child |
| 5 | slightly true of your child |
| 6 | quite true of your child |
| 7 | extremely true of your child |

If you cannot answer one of the items because you have never seen the child in that situation, for example, if the statement is about the child's reaction to your singing and you have never sung to your child, then select NA (not applicable).

Please be sure to select a number or NA for each item.

1. Seems always in a big hurry to get from one place to another.
1 2 3 4 5 6 7 NA
2. Gets quite frustrated when prevented from doing something s/he wants to do.
1 2 3 4 5 6 7 NA
3. When drawing or coloring in a book, shows strong concentration.
1 2 3 4 5 6 7 NA
4. Likes going down high slides or other adventurous activities.
1 2 3 4 5 6 7 NA
5. Is quite upset by a little cut or bruise.
1 2 3 4 5 6 7 NA
6. Prepares for trips and outings by planning things s/he will need.
1 2 3 4 5 6 7 NA
7. Often rushes into new situations.
1 2 3 4 5 6 7 NA
8. Tends to become sad if the family's plans don't work out.
1 2 3 4 5 6 7 NA
9. Likes being sung to.
1 2 3 4 5 6 7 NA
10. Seems to be at ease with almost any person.
1 2 3 4 5 6 7 NA
11. Is afraid of burglars or the "boogie man."
1 2 3 4 5 6 7 NA
12. Notices it when parents are wearing new clothing.
1 2 3 4 5 6 7 NA
13. Prefers quiet activities to active games.
1 2 3 4 5 6 7 NA
14. When angry about something, s/he tends to stay upset for ten minutes or longer.
1 2 3 4 5 6 7 NA

15. When building or putting something together, becomes very involved in what s/he is doing, and works for long periods.
1 2 3 4 5 6 7 NA
16. Likes to go high and fast when pushed on a swing.
1 2 3 4 5 6 7 NA
17. Seems to feel depressed when unable to accomplish some task.
1 2 3 4 5 6 7 NA
18. Is good at following instructions.
1 2 3 4 5 6 7 NA
19. Takes a long time in approaching new situations.
1 2 3 4 5 6 7 NA
20. Hardly ever complains when ill with a cold.
1 2 3 4 5 6 7 NA
21. Likes the sound of words, such as nursery rhymes.
1 2 3 4 5 6 7 NA
22. Is sometimes shy even around people s/he has known a long time.
1 2 3 4 5 6 7 NA
23. Is very difficult to soothe when s/he has become upset.
1 2 3 4 5 6 7 NA
24. Is quickly aware of some new item in the living room.
1 2 3 4 5 6 7 NA
25. Is full of energy, even in the evening.
1 2 3 4 5 6 7 NA
26. Is not afraid of the dark.
1 2 3 4 5 6 7 NA
27. Sometimes becomes absorbed in a picture book and looks at it for a long time.
1 2 3 4 5 6 7 NA
28. Likes rough and rowdy games.
1 2 3 4 5 6 7 NA
29. Is not very upset at minor cuts or bruises.
1 2 3 4 5 6 7 NA

30. Approaches places s/he has been told are dangerous slowly and cautiously.
1 2 3 4 5 6 7 NA
31. Is slow and unhurried in deciding what to do next.
1 2 3 4 5 6 7 NA
32. Gets angry when s/he can't find something s/he wants to play with.
1 2 3 4 5 6 7 NA
33. Enjoys gentle rhythmic activities such as rocking or swaying.
1 2 3 4 5 6 7 NA
34. Sometimes turns away shyly from new acquaintances.
1 2 3 4 5 6 7 NA
35. Becomes upset when loved relatives or friends are getting ready to leave following a visit.
1 2 3 4 5 6 7 NA
36. Comments when a parent has changed his/her appearance.
1 2 3 4 5 6 7 NA

Strengths and Difficulties Questionnaire

P or T 4-10

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain. Please give your answers on the basis of the child's behavior over the last six months or this school year.

Child's name

Male/Female

Date of birth.....

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restless, overactive, cannot stay still for long	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often complains of headaches, stomach-aches or sickness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shares readily with other children, for example toys, treats, pencils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often loses temper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rather solitary, prefers to play alone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Generally well behaved, usually does what adults request	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Many worries or often seems worried	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Helpful if someone is hurt, upset or feeling ill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Constantly fidgeting or squirming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has at least one good friend	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often fights with other children or bullies them	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often unhappy, depressed or tearful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Generally liked by other children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easily distracted, concentration wanders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nervous or clingy in new situations, easily loses confidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kind to younger children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often lies or cheats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Picked on or bullied by other children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often offers to help others (parents, teachers, other children)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thinks things out before acting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Steals from home, school or elsewhere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gets along better with adults than with other children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Many fears, easily scared	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Good attention span, sees work through to the end	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature

Date

Parent / Teacher / Other (Please specify):

Thank you very much for your help

SOCIAL DESIRABILITY SCALE

Personal Reaction Inventory (Crowne & Marlow, 1960)

Directions: Listed below are a number of statements concerning personal attitudes and traits. Read each item and select whether the statement is *true* or *false* as it pertains to you personally.

1. Before voting I thoroughly investigate the qualifications of all the candidates.
2. I never hesitate to go out of my way to help someone in trouble.
3. It is sometimes hard for me to go on with my work if I am not encouraged.
4. I have never intensely disliked anyone.
5. On occasion I have had doubts about my ability to succeed in life.
6. I sometimes feel resentful when I don't get my way.
7. I am always careful about my manner of dress.
8. My table manners at home are as good as when I eat out in a restaurant.
9. If I could get into a movie without paying and be sure I was not seen I would probably do it.
10. On a few occasions, I have given up doing something because I thought too little of my ability.
11. I like to gossip at times.
12. There have been times when I felt like rebelling against people in authority even though I knew they were right.
13. No matter who I am talking to, I'm always a good listener.
14. I can remember "playing sick" to get out of something.
15. There have been occasions when I took advantage of someone.
16. I'm always willing to admit it when I make a mistake.
17. I always try to practice what I preach.
18. I don't find it particularly difficult to get along with loud mouthed, obnoxious people.
19. I sometimes try to get even rather than forgive and forget.
20. When I don't know something I don't at all mind admitting it.
21. I am always courteous, even to people who are disagreeable.
22. At times I have really insisted on having things my own way.
23. There have been occasions when I felt like smashing things.
24. I would never think of letting someone else be punished for my wrong-doings.
25. I never resent being asked to return a favor.
26. I have never been irked when people expressed ideas very different from my own.
27. I never make a long trip without checking the safety of my car.
28. There have been times when I was quite jealous of the good fortune of others.
29. I have almost never felt the urge to tell someone off.
30. I am sometimes irritated by people who ask favors of me.
31. I have never felt that I was punished without cause.
32. I sometimes think when people have a misfortune they only got what they deserved.
33. I have never deliberately said something that hurt someone's feelings.

APPENDIX B TABLES

Table 1

Descriptive Statistics for Proximal Parenting Factor Variables (PPPF)

Scale	<i>M</i>	<i>SD</i>
Parents' knowledge of child's playmates and close friends	2.57	0.95
Parents' strategies for supporting child friendships	3.29	0.43
Parents' endorsement of parental involvement in child friendships	4.31	0.83

Note: PPPF = Parent Perceptions of Preschool Friendships

Table 2

Descriptive Statistics for Parent Distal Factor Predictors

Scale	<i>M</i>	<i>SEM</i>	<i>SD</i>
Parent Personality (BFI)			
Extraversion	3.54	0.09	0.77
Agreeableness	3.40	0.08	0.66
Conscientiousness	3.95	0.08	0.65
Neuroticism	2.88	0.09	0.74
Openness	3.64	0.07	0.62
Parenting Stress (PSI-SF)			
Parental Distress	2.34	0.09	0.73
Parent-Child Dysfunctional Interaction	1.76	0.06	0.51
Difficult Child	2.2	0.07	0.62
Total	2.10	0.06	0.50
Social Network Size (HMT)			
Inner Circle	7.01	0.52	4.43
Middle Circle	6.43	0.78	6.58
Outer Circle	5.10	0.82	6.99
Ratio of Close Relationships	0.45	0.03	0.22
Perceived Social Support (MSPSS)			
Significant Other	5.67	0.18	1.53
Family	5.22	0.20	1.72
Friends	5.28	0.17	1.46
Total	5.39	0.17	1.46

Note. BFI = Big Five Inventory; PSI-SF = Parenting Stress Index-Short Form; HMT = Hierarchical Mapping Technique; MSPSS = Multidimensional Scale of Perceived Social Support

Table 3

Descriptive Statistics Children's Temperament (CBQ-VSF)

Scale	<i>M</i>	<i>SEM</i>	<i>SD</i>
Surgency	4.64	0.10	0.84
Negative Affect	3.74	0.10	0.87
Effortful Control	5.06	0.09	0.80

Note. CBQ-VSF = Child Behavior Questionnaire-Very Short Form

Table 4

*Descriptive Statistics for Children's Peer Problems
and Prosocial Behavior (SDQ)*

Scale	Mean	S.E.M.	S.D.
Peer Problems	0.33	0.04	0.31
Prosocial	1.56	0.04	0.35

Note: SDQ = Strengths and Difficulties Questionnaire

Table 5

Correlation Matrix of Transformed Independent and Dependent Scale Variables

Variable	1	2	3	4	5	6
1. Extraversion	--					
2. Agreeableness	-.174	--				
3. Conscientiousness	.266*	-.437**	--			
4. Neuroticism	-.138	.394**	-.637**	--		
5. Openness	.317*	-.196	.217	-.153	--	
6. Inner circle number	.142	-.271*	.203	-.208	.149	--
7. Middle circle number	.240	-.304*	.229	-.009	.437**	.406**
8. Outer circle number	.114	-.236	.149	-.053	.181	.379**
9. Social Map total number	.133	-.275*	.226	-.111	.323**	.608**
10. Social Support Total	-.211	.280*	-.394**	.321**	-.222	-.262*
11. Social Support Significant Other	-.226	.337**	-.450**	.349**	-.239	-.247*
12. Social Support Family	-.222	.260*	-.374**	.356**	-.177	-.254*
13. Social Support Friends	-.193	.222	-.350**	.236	-.274*	-.255*
14. PSI Total	-.243	.405**	-.593**	.570**	-.204	-.277*
15. PSI Parental Distress	-.099	.396**	-.559**	.604**	-.126	-.319**
16. PSI_SF Difficult Child	-.366**	.216	-.510**	.501**	-.147	-.090
17. PSI Parental-Child Dysfunction	-.149	.343**	-.312*	.208	-.253*	-.256*
18. SDQ Peer Problems	-.182	.528**	-.296*	.105	-.142	-.146
19. SDQ Prosocial Behavior	-.364**	.194	-.270*	.184	-.243	-.194
20. CBQ-VSF Surgency	.244*	-.171	.244*	-.126	-.107	.155
21. CBQ-VSF Negative Affect	-.220	.098	-.401**	.377**	-.035	.089
22. CBQ-VSF Effortful Control	.084	-.419**	.049	-.030	.286*	.156
23. PPPF Parental Knowledge	.059	-.270*	.306*	-.227	.159	.097
24. PPPF Parent Strategies	.137	-.417**	.141	-.182	-.012	.174
25. Endorsement of parent involvement	-.175	.534**	-.157	.070	-.274*	-.119
26. Social Desirability	-.117	-.381**	.323**	-.496**	.115	.157

* $p < .05$ ** $p < .01$

Table 5

*Correlation Matrix of Transformed Independent and Dependent Scale Variables
(continued)*

Variables	7	8	9	10	11	12
7. Middle circle number	--					
8. Outer circle number	.693**	--				
9. Social Map total number	.804**	.799**	--			
10. Social Support Total	-.330**	-.162	-.227	--		
11. Social Support Significant Other	-.401**	-.177	-.244	.935**	--	
12. Social Support Family	-.220	-.186	-.210	.906**	.793**	--
13. Social Support Friends	-.320**	-.106	-.201	.940**	.844**	.762**
14. PSI Total	-.245	-.224	-.219	.534**	.559**	.581**
15. PSI Parental Distress	-.178	-.226	-.241	.518**	.503**	.541**
16. PSI_SF Difficult Child	-.115	-.048	-.059	.379**	.433**	.427**
17. PSI Parental-Child Dysfunction	-.311*	-.240	-.204	.304*	.346**	.354**
18. SDQ Peer Problems	-.211	-.166	-.117	.251*	.331**	.175
19. SDQ Prosocial Behavior	-.170	-.110	-.096	.308*	.371**	.244
20. CBQ-VSF Surgency	.039	.050	.003	-.267*	-.232	-.305*
21. CBQ-VSF Negative Affect	.037	-.212	-.008	.278*	.280*	.311*
22. CBQ-VSF Effortful Control	.291*	.018	.186	-.248*	-.269*	-.207
23. PPPF Parental Knowledge	.088	.311*	.133	-.279*	-.324**	-.251*
24. PPPF Parent Strategies	-.002	.033	.111	-.262*	-.253*	-.346**
25. Endorsement of parent involvement	-.288*	-.105	-.145	.226	.272*	.191
26. Social Desirability	-.160	-.081	-.045	-.075	-.069	-.152

* $p < .05$ ** $p < .01$

Table 5

*Correlation Matrix of Transformed Independent and Dependent Scale Variables
(continued)*

Variables	13	14	15	16	17	18
13. Social Support Friends	--					
14. PSI Total	.447**	--				
15. PSI Parental Distress	.480**	.862**	--			
16. PSI_SF Difficult Child	.270*	.791**	.512**	--		
17. PSI Parental-Child Dysfunction	.236	.715**	.425**	.402**	--	
18. SDQ Peer Problems	.235	.312*	.281*	.235	.206	--
19. SDQ Prosocial Behavior	.287*	.367**	.302*	.331**	.287*	.158
20. CBQ-VSF Surgency	-.256*	-.296*	-.190	-.240	-.269*	-.349**
21. CBQ-VSF Negative Affect	.227	.451**	.267*	.603**	.214	.144
22. CBQ-VSF Effortful Control	-.223	-.229	-.136	-.014	-.447**	-.099
23. PPPF Parental Knowledge	-.251*	-.149	-.293*	.019	-.003	-.288*
24. PPPF Parent Strategies	-.177	-.329**	-.312*	-.187	-.265*	-.153
25. Endorsement of parent involvement	.184	.286*	.233	.168	.304*	.219
26. Social Desirability	-.007	-.232	-.357**	-.129	-.005	-.136

* $p < .05$ ** $p < .01$

Table 5

Correlation Matrix of Transformed Independent and Dependent Scale Variables (continued)

Variables	19	20	21	22	23	24	25	26
19. SDQ Prosocial Behavior	--							
20. CBQ-VSF Surgency	-.035	--						
21. CBQ-VSF Negative Affect	.142	-.309*	--					
22. CBQ-VSF Effortful Control	-.339**	-.141	.167	--				
23. PPPF Child Peer Relationships	-.169	.127	.073	-.051	--			
24. PPPF Parent Strategies	-.228	.092	.037	.437**	.116	--		
25. Endorsement of parent involvement	.186	-.015	-.002	-.400**	-.080	-.398**	--	
26. Social Desirability	-.069	-.050	.053	.139	.316*	.399**	-.207	--

* $p < .05$ ** $p < .01$

Table 6

Proximal Parenting Factors (PPPF) Predicting Children's Peer Problems (SDQ)

Predictors	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
1. Parental education	0.04	0.04	0.12	0.05	0.04	0.14
2. Parents' strategies for supporting child friendships				-0.05	0.10	-0.07
Parents' knowledge of child's playmates and close friends				-0.08	0.04	-0.24
Parents' endorsement of parental facilitation of child friendships				0.22	0.14	0.20
<i>R</i> ²		0.01			0.14	
<i>F</i> for change in <i>R</i> ²		0.92			2.99*	

* $p < .05$ ** $p < .01$

Note: PPPF = Parent Perceptions of Preschoolers' Friendships; SDQ = Strengths and Difficulties Questionnaire

Table 7

Total Parenting Stress as a Predictor of Children's Peer Problems (SDQ)

Predictors	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Parental education	0.04	0.04	0.12	0.03	0.04	0.09
PSI-SF Total Score				0.60	0.24	0.30*
<i>R</i> ²		0.01			0.10	
<i>F</i> for change in <i>R</i> ²		0.92			6.32*	

* $p < .05$ ** $p < .01$

Note: SDQ = Strengths and Difficulties Questionnaire; PSI-SF = Parenting Stress Index-Short Form

Table 8

Total Parenting Stress Predicting Children's Prosocial Behavior (SDQ)

Predictors	<i>B</i>	<i>SE B</i>	β
PSI-SF Total Score	0.30	0.10	0.37**
R^2		0.13	
F		9.78**	

* $p < .05$ ** $p < .01$

Table 9

PSI-SF Subscales Predicting Children's Prosocial Behavior

Predictors	<i>B</i>	<i>SE B</i>	β
Parental Distress	0.08	0.08	0.14
Dysfunctional Interaction	0.15	0.16	0.15
Difficult Child	0.05	0.03	0.20
<i>R</i> ²		0.15	
<i>F</i>		3.60*	

* $p < .05$ ** $p < .01$

Note: PSI-SF = Parent Stress Index-Short Form

Table 10

HTM Ratio of Closeness and MSPSS Perceived Social Support Predicting Children's Prosocial Behavior

Predictors	<i>B</i>	<i>SE B</i>	β
Ratio of closeness	0.03	0.08	0.05
Perceived social support	0.10	0.04	0.31*
<i>R</i> ²		0.10	
<i>F</i>		3.36*	

* $p < .05$ ** $p < .01$

Note: HTM = Hierarchical Mapping Technique; MSPSS = Multidimensional Scale of Perceived Social Support

Table 11

Parent Personality (BFI) as Predictors of Children's Peer Problems

Predictors	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
1. Parent Education	0.04	0.04	0.12	0.03	0.04	0.09
2. Extraversion				-0.03	0.06	-0.06
Agreeableness				0.76	0.18	0.52**
Conscientiousness				-0.09	0.07	-0.19
Neuroticism				-0.10	0.06	-0.22
Openness				0.001	0.06	0.002
R^2		0.01			0.33	
F for change in R^2		0.92			5.49**	

* $p < .05$ ** $p < .01$

Note: Agreeableness was reflected before being transformed so positive betas indicate a negative relationship.

BFI = Big Five Inventory

Table 12

<i>Parent Personality as Predictors of Children's Prosocial Behaviors</i>			
Predictors	<i>B</i>	<i>SE B</i>	β
Extraversion	-0.06	0.02	-0.28*
Agreeableness	0.04	0.08	0.06
Conscientiousness	-0.03	0.03	-0.13
Neuroticism	0.004	0.03	0.02
Openness	-0.020	0.03	-0.11
<i>R</i> ²		0.18	
<i>F</i>		2.59*	
* $p < .05$ ** $p < .01$			

Note: Agreeableness and child prosocial behavior were reflected before being transformed so negative betas indicate a positive relationship for the four other dimensions.

Table 13

Total Parenting Stress as a Predictor of Parents' Strategies Used to Support Children's Peer Relationships

Predictors	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Social Desirability	1.01	0.30	0.40**	0.86	0.30	0.34**
PSI Total Score				-0.66	0.30	-0.25*
<i>R</i> ²		0.15			0.22	
<i>F</i> for change in <i>R</i> ²		11.75**			4.80*	

* $p < .05$ ** $p < .01$

Note: PSI-SF = Parenting Stress Index-Short Form

Table 14

PSI-SF Subscales as Predictors of Parents' Strategies Used to Support Children's Peer Relationships

Predictors	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
1. Social Desirability	1.01	0.30	0.40**	0.98	0.31	0.38***
2. Parental Distress				1.86	2.03	0.99
Dysfunctional Interaction				-0.89	0.47	-0.24
Difficult Child				-0.66	0.66	-1.07
<i>R</i> ²		0.16			0.25	
<i>F</i> for change in <i>R</i> ²		11.75***			2.28	

* $p < .10$ ** $p < .05$ *** $p < .01$

Note: PSI-SF = Parent Stress Index-Short Form

Table 15

PSI-SF Subscales as Predictors of Parents' Knowledge of Children's Playmates and Close Friends

Predictors	Model 1		B	Model 2		β
	<i>B</i>	<i>SE B</i>		<i>B</i>	<i>SE B</i>	
1. Social Desirability	1.73	0.66	0.32*	1.21	0.71	0.22
2. Parental Distress				-1.32	0.64	-0.33*
Dysfunctional Interaction				0.52	1.10	0.06
Difficult Child				0.27	0.23	0.17
<i>R</i> ²		0.10			0.16	
<i>F</i> for change in <i>R</i> ²		6.89*			1.46	

* $p < .05$ ** $p < .01$

Note: PSI-SF = Parent Stress Index-Short Form

Table 16

Total Parenting Stress as a Predictor of Parents' Endorsement of Parental Involvement in Children's Peer Relationships

Predictors	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Parental Age	0.12	0.05	0.29*	0.12	0.05	0.29*
PSI Total				0.47	0.22	0.26*
<i>R</i> ²		0.08			0.07	
<i>F</i> for change in <i>R</i> ²		5.74*			4.73*	

* $p < .05$

** $p < .01$

Note: The parents' endorsement of facilitating children's peer relationships was reflected for transformation, so the positive beta indicates a negative relationship.

Table 17

The HMT Ratio and the MSPSS Total Score as Predictors of Parents' Strategies Used to Support Children's Peer Relationships

Predictors	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
1. Social Desirability	1.01	0.30	0.40**	1.04	0.31	0.41**
2. Ratio of closeness				-0.16	0.24	-0.08
Perceived social support				-0.23	0.11	-0.23*
<i>R</i> ²		0.16			0.22	
<i>F</i> for change in <i>R</i> ²		11.75**			2.42	

* $p < .05$ ** $p < .01$

Table 18

The HMT Social Network Size and the MSPSS Total Score as Predictors of Parents' Endorsement of Parental Involvement in Children's Peer Relationships

Predictors	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
1. Social Desirability	1.73	0.66	0.32**	1.77	0.68	0.32**
2. Inner Circle number				0.02	0.04	0.05
Middle Circle number				0.00	0.05	0.00
Outer Circle number				0.05	0.04	0.18
Perceived social support				-0.49	0.27	-0.23*
<i>R</i> ²		0.10			0.21*	
<i>F</i> for change in <i>R</i> ²		6.89**			2.03	

* $p < .10$ ** $p < .05$ *** $p < .01$

Table 19

The HMT Ratio and the MSPSS Total Score as Predictors of Parents' Knowledge of Children's Playmates and Close Friends

Predictors	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
1. Social Desirability	1.73	0.66	0.32*	1.87	0.68	0.34**
2. Ratio of closeness				-0.58	0.53	-0.14
Perceived social support				-0.56	0.25	-0.26*
<i>R</i> ²		0.10			0.19	
<i>F</i> for change in <i>R</i> ²		6.89*			3.33*	

* $p < .05$ ** $p < .01$

Table 20

BFI Parent Personality as Predictors of Their Strategies Used to Support Children's Peer Relationships

Predictors	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
1. Social Desirability	1.01	0.30	0.40**	0.97	0.34	0.38**
2. Extraversion				0.14	0.08	0.22
Agreeableness				-0.67	0.25	-0.35**
Conscientiousness				-0.07	0.10	-0.10
Neuroticism				0.04	0.09	0.07
Openness				-0.11	0.08	-0.16
<i>R</i> ²		0.16			0.31	
<i>F</i> for change in <i>R</i> ²		11.75***			2.41*	

Note: Agreeableness was reflected before being transformed so negative betas indicate a positive relationship

* $p < .05$ ** $p < .01$

Table 21

BFI Parent Personality as Predictors of Their Knowledge of Children's Playmates and Close Friends

Predictors	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
1. Social Desirability	1.73	0.66	0.32*	1.26	0.81	0.23
2. Extraversion				0.03	0.18	0.02
Agreeableness				-0.46	0.59	-0.11
Conscientiousness				0.31	0.24	0.22
Neuroticism				0.08	0.22	0.06
Openness				0.10	0.19	0.06
<i>R</i> ²		0.10			0.07	
<i>F</i> for change in <i>R</i> ²		6.89*			0.97	

* $p < .05$ ** $p < .01$

Note: Agreeableness was reflected before being transformed so positive betas indicate a negative relationship

Table 22

BFI Parent Personality as Predictors of Their Endorsement of Parental Involvement in Children's Peer Relationships

Predictors	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
1. Parental age	0.12	0.05	0.29*	0.12	0.04	0.28**
2. Extraversion				-0.02	0.05	-0.04
Agreeableness				0.65	0.16	0.51**
Conscientiousness				0.001	0.06	0.001
Neuroticism				-0.06	0.06	-0.14
Openness				-0.11	0.05	-0.23
<i>R</i> ²		0.08			0.40	
<i>F</i> for change in <i>R</i> ²		5.74*			5.94**	

Note: Agreeableness and parental involvement were reflected before being transformed so positive betas indicate a negative relationship for the other four personality dimensions

* $p < .05$ ** $p < .01$

Table 23

CBQ-VSF Temperament as Predictors of Children's Peer Problems

Predictors	<i>B</i>	<i>SE B</i>	β
Surgency	-0.14	0.05	-0.35**
Negative Affect	0.02	0.05	0.06
Effortful Control	-0.07	0.05	-0.16
<i>R</i> ²		0.15	
<i>F</i>		3.52*	

* $p < .05$. ** $p < .01$.

Note: CBQ-VSF = Child Behavior Questionnaire-Very Short Form

Table 24

CBQ-VSF Temperament as Predictors of Children's Prosocial Behavior

Predictors	<i>B</i>	<i>SE B</i>	β
Surgency	-0.01	0.02	-0.03
Negative Affect	0.03	0.02	0.20
Effortful Control	-0.07	0.02	-0.38**
<i>R</i> ²		0.16	
<i>F</i>		3.75*	

* $p < .05$. ** $p < .01$.

Note: Child prosocial behavior was reflected before transformation so negative betas indicate a positive relationship.

Table 25

CBQ-VSF Temperament as Predictors of Parents' Management of Peer Relations

Predictors	Model 1		Model 2			
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	β
1. Social Desirability	1.01	0.30	0.40	0.88	0.27	0.35**
2. Surgency				β	<i>B</i>	0.21
Negative Affect				0.00	0.06	-0.01
Effortful Control				0.25	0.06	0.44**
<i>R</i> ²			0.16		0.36	
<i>F</i> for change in <i>R</i> ²			11.75**		6.22**	

* $p < .05$. ** $p < .01$.

Table 26

CBQ-VSF Temperament as Predictors of Parents' Endorsement of Parental Facilitation of Peer Relationships

Predictors	<i>B</i>	<i>SE B</i>	β
Surgency	-0.02	0.05	-0.06
Negative Affect	0.02	0.04	0.05
Effortful Control	-0.16	0.05	-0.42**
<i>R</i> ²	0.17		
<i>F</i> for change in <i>R</i> ²	4.08**		

* $p < .05$ ** $p < .01$

Note: The parental endorsement variable was reflected before transformation so the negative beta indicates a positive relationship

Table 27

CBQ-VSF Temperament as Predictors of Total Parenting Stress

Predictors	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Social Desirability	-0.23	0.12	-0.23	-0.22	0.10	-0.22*
Surgency				-0.05	0.02	-0.23*
Negative Affect				0.09	0.02	0.45**
Effortful Control				-0.07	0.02	-0.32
<i>R</i> ²		0.04			0.39	
<i>F</i> for change in <i>R</i> ²		3.54			11.04**	

* $p < .05$. ** $p < .01$.

Table 28

CBQ-VSF Temperament as Predictors of PSI-SF Parental Distress

Predictors	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Social Desirability	-0.48	0.16	-0.36	-0.48	0.15	-0.36
Surgency				-0.06	0.04	-0.19
Negative Affect				0.08	0.03	0.27*
Effortful Control				-0.06	0.04	-0.18
<i>R</i> ²		0.13			0.27	
<i>F</i> for change in <i>R</i> ²		9.07**			3.83*	

* $p < .05$. ** $p < .01$.

Table 29

*CBQ-VSF Temperament as Predictors of PSI-SF
Parent-Child Dysfunctional Interaction*

Predictors	<i>B</i>	<i>SE B</i>	β
Surgency	-0.04	0.02	-0.28*
Negative Affect	0.03	0.02	0.22*
Effortful Control	-0.08	0.02	-0.52**
<i>R</i> ²	0.35		
<i>F</i>	11.12**		

* $p < .05$. ** $p < .01$.

Table 30

*CBQ-VSF Temperament as Predictors of PSI-SF
Difficult Child*

Predictors	<i>B</i>	<i>SE B</i>	β
Surgency	-0.05	0.08	-0.07
Negative Affect	0.43	0.08	0.60**
Effortful Control	-0.10	0.08	-0.12
<i>R</i> ²	0.38		
<i>F</i>	12.54**		

* $p < .05$. ** $p < .01$.

Table 31

BFI Parent Personality as Predictors of Children's CBQ-VSF Negative Affect

Predictors	<i>B</i>	<i>SE B</i>	β
Extraversion	-0.20	0.15	-0.16
Agreeableness	-0.48	0.48	-0.13
Conscientiousness	-0.35	0.20	-0.28*
Neuroticism	0.280	0.17	0.24
Openness	0.12	0.16	0.09
<i>R</i> ²		0.22	
<i>F</i>		3.39**	

Note: Agreeableness was reflected before being transformed so positive betas indicate a negative relationship.

* $p < .10$ ** $p < .05$ *** $p < .01$

Table 32

BFI Parent Personality as Predictors of Children's CBQ-VSF Effortful Control

Predictors	<i>B</i>	<i>SE B</i>	β
Extraversion	-0.03	0.14	-0.03
Agreeableness	-1.63	0.44	-0.48**
Conscientiousness	-0.16	0.18	-0.14
Neuroticism	0.110	0.16	0.10
Openness	0.30	0.15	0.25*
<i>R</i> ²		0.26	
<i>F</i>		4.10**	

Note: Agreeableness was reflected before being transformed so positive betas indicate a negative relationship.

* $p < .05$ ** $p < .01$

**APPENDIX C INSTITUTIONAL REVIEW BOARD CONTINUATION APPROVAL
LETTER**

Institutional Review Board Continuation Approval Letter is on next page.



IRB Administration Office
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NOTICE OF EXPEDITED CONTINUATION APPROVAL

To: Nicholas Bergeron
Psychology
5057 Woodward 7th Floor

From: Dr. Deborah Ellis or designee A. LaCour / 2-2
Chairperson, Behavioral Institutional Review Board (B3)

Date: May 12, 2016

RE: IRB #: 026314B3E

Protocol Title: Parents' Characteristics and Behaviors and Children's Characteristics and Children's Peer Relationships

Funding Source: Unit: Psychology

Protocol #: 1402012821

Expiration Date: May 11, 2019

Risk Level / Category: Research not involving greater than minimal risk

Continuation for the above-referenced protocol and items listed below (if applicable) were APPROVED following Expedited Review by the Chairperson/designee of the Wayne State University Institutional Review Board (B3) for the period of 05/12/2016 through 05/11/2019. This approval does not replace any departmental or other approvals that may be required.

- Actively accruing participants
- Waiver of written documentation of consent continued and approved
- Research Information Sheet (revision dated 04/22/2015)
- Tear-Away Flyer
- Pipeline Advertisement
- Snowball Recruitment Advertisement
- This protocol lapsed between 03/05/16 and 05/12/16. This lapse in IRB Approval is considered non-compliance with federal regulations, 45CFR46, and WSU's IRB policies. Another Lapse in IRB approval of this study or any other studies in which you are PI will be considered continuing non-compliance and will be reported to the federal authorities per Wayne State University's Federal Wide Assurance.
- Please note: This continuation was reviewed under the IRB Administration Office Flexible Review and Oversight Policy, therefore the expiration date is May 11, 2019.

- Federal regulations require that all research be reviewed at least annually. You may receive a "Continuation Renewal Reminder" approximately two months prior to the expiration date; however, it is the Principal Investigator's responsibility to obtain review and continued approval *before* the expiration date. Data collected during a period of lapsed approval is unapproved research and can never be reported or published as research data.
- All changes or amendments to the above-referenced protocol require review and approval by the IRB **BEFORE** implementation.
- Adverse Reactions/Unexpected Events (AR/UE) must be submitted on the appropriate form within the timeframe specified in the IRB Administration Office Policy (<http://www.irb.wayne.edu/policies-human-research.php>).

NOTE:

1. Upon notification of an impending regulatory site visit, hold notification, and/or external audit the IRB Administration Office must be contacted immediately.
2. Forms should be downloaded from the IRB website at each use.

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ABSTRACT**A DEVELOPMENTAL CONTEXTUALISM PERSPECTIVE ON YOUNG CHILDREN'S FRIENDSHIPS: HOW MUCH DO PARENT CHARACTERISTICS, PARENTAL BEHAVIORS, AND CHILD CHARACTERISTICS MATTER?**

by

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The present study investigated the relationships between parents' proximal factors: strategies used to manage and facilitate children's peer relationships, knowledge of children's playmates and close friends, and endorsement of these strategies; and parents' distal factors: parenting stress, social support network, and personality, and children's quality of peer relationships. It also investigated the relationships between child age, gender, child temperament, and children's peer relationships and children's prosocial behavior. Parents' strategies used and endorsement of those strategies were unrelated to children's peer problems and prosocial behavior, but their knowledge of children's peer relationships was negatively related to children's peer problems. Parenting stress was positively related to children's peer problems and negatively related to children's prosocial behaviors. Total perceived social support was related to children's fewer peer problems and more prosocial behaviors. Social network size was not significantly related. Parents' agreeableness was negatively related to children's peer problems and their extraversion was positively

related to children's prosocial scores. Parents with higher parenting stress reported less management of their children's peer relationships. Their total perceived social support was positively related to their management of their child's peer relationships. Agreeableness was the only personality dimension related to their management of their children's peer relationships. Younger children received more involvement of their parents in their peer relationships than older children. No differences were found as a function of children's gender. Children's surgency was related to decreased peer problems and their effortful control was related to increased prosocial behaviors and parents' strategies used to improve children's peer relationships. Links between parenting stress and child temperament was found. Relationships between parents' personality and child temperament were also explored.

AUTOBIOGRAPHICAL STATEMENT

Nicholas R. Bergeron graduated from the University of Michigan - Flint in 2005 with a Bachelors of Science in Clinical/Community Psychology. He began graduate school in Developmental Psychology at Wayne State University in 2007 and he earned his Master of Arts degree in 2011. His main area of study is the development of social relationships from infancy to adulthood. Nicholas was initially interested in studying friendships and peer relationships during adolescence and the transition to adulthood. Currently his greatest interest is in the study of family relationships, especially studying the family as a system of interrelationships. This matches perfectly with his other interest in studying dynamic systems of development. His research interests have been greatly shaped by his advisors, Drs. Ty Partridge and Ann Stacks. More recently, Dr. Marjorie Beeghly has shaped his research interest in parent-child interaction effects. Each of these three advisors has contributed immensely to his overall professional development as a researcher and a writer.

He has annually presented the findings of his research at developmental research conferences, including the Society for the Study of Human Development biannual conference, the Society for Research in Adolescence biannual conference, the Society for Research in Child Development biannual conference, and the Michigan Association for Infant Mental Health biannual conference. He will present the findings of his dissertation at the annual American Psychological Science Society's convention in May 2016. Nicholas has also taught courses in Introductory Psychology, Developmental Psychology, Social Psychology, Personality Psychology, and a writing lab in Learning and Memory.